

# The Mining Journal,

## RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

*[The Mining Journal is Registered at the General Post Office as a Newspaper and for Transmission Abroad.]*

No. 2385.—VOL. LI.

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PER ANNUM, BY POST £1 4s

**M**R. JAMES H. CROFTS, STOCK AND SHARE BROKER,  
AND MINING SHARE DEALER,  
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.  
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded regularly on application), containing closing prices of the week.

MINES INSPECTED.  
BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or part:—  
100 Arendal, £2 2s. 75 Herodsfoot, 16s.  
30 Aberllyn, 10s. 6d. 20 Hinstone Down, £1 3s. 50 Ruby, £8 17s. 6d.  
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10 Cambrian, 10s. 10 Leadhills, £2 5s. 10 Roman Gravels, £12 1s.  
20 Carnarvon Cop., 19s. 6 30 Marke Valley, £1 18 9 50 So. Devon, £2 15s. 9d.  
25 Devon Con., £12 2s. 6d. 50 North D'Erseby, 2s. 20 S. Indian, £2 18 9  
10 Derwent, £1 12s. 6d. 100 Nouv. Monde, £1 5s. 10 So. Condurrow, £3 1s.  
50 East Crebior, 10s. 3d. 50 N. Penstruthal, £1 15s. 50 So. E. Wynnaid, £1 16 3  
20 East Caradon, £1 2s. 6 30 Pandora, 16s. 50 S. Penstruthal, 9s. 3d.  
50 E. Roman Grav. 17s. 6 30 Pen-yr-Orsedd, 19s. 50 Tanker, Gt. Con., 13s.  
30 East Van, 35s. 100 Polrose, 9s. 6d. 50 United Van Consols  
100 Frontino, £4 15s. 75 Port Phillip, 9s. 6d. and Glyn, 7s. 6d.  
70 Glenrock, 2s. 5s. 75 Potosi, £1 3s. 9d. 20 West Phoenix, £1 15s.  
50 Glenrov, 8s. 9d. 50 Prince of Wales, 18s. 20 Wheal Crebior, £3 18 9  
10 Grogwinion, £2 12s. 6 150 Parys Copper, 16s. 20 West Kitty, £4 3s. 9d.  
200 Pestarena, 6s. 9d.

\*\* SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

RAILWAYS—SPECIAL BUSINESS.  
FOREIGN BONDS—SPECIAL BUSINESS.  
AMERICAN STOCKS AND SHARES—SPECIAL BUSINESS.  
Fortnightly accounts opened on receipt of the usual cover in these and all Stock Exchange Securities.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.  
ESTABLISHED 1842.

INDIAN GOLD MINES.—Business in all the leading Shares at CLOSE MARKET PRICES. Also, in FRONTINO AND BOLIVIA AND POTOSI.

\*\* SHARES IN THE ABOVE SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON

**M**R. W. H. BUMPUS, STOCK AND SHARE BROKER,  
AND MINING SHARE DEALER  
44, THREADNEEDLE STREET, LONDON, E.C.  
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.

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TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.

Accounts opened for the Fortnightly Settlement

A List of Investments free on application.

**M**RS. BUMPUS has SPECIAL BUSINESS in the undermentioned:—  
150 Almada, 7s. 6d. 150 Eng.-Australian Gold, 60 Nouv. Monde, 25s.  
25 Arendal, £3. 24s. 40 New Trumpet, £2.  
20 Blue Tent, 25s. 20 East Van, 31s. 6d. 50 New Pever, £2.  
100 Bodilis, 50 East Caradon, 17s. 6d. 75 Potosi, 31s.  
75 Carnarvon, 19s. 100 East Wheal Rose, 25 Panulicillo, £6 6s. 3d.  
50 Chontales, 3s. 3d. 27s. 6d. prem. 100 Port Phillip, 8s.  
40 Calico Bis, 25s. 40 East Roman Gravels, 70 Pen-yr-Orsedd, 22s.  
35 Colorado, 41s. 6d. 25 Emma, £3 6s. 3d. 10 Roman Gravels, £12 16s. 3d.  
40 Copiapo, £2 16 3d. 30 Frontino, £4 15s. 6d. 15 Ruby, £8 3s.  
100 Don Pedro, 17s. 5 Great Laxey, £17 1s. 20 Richmond, £1 17 3s.  
100 Devon Friendship, 20s. 6d. 100 Glenroy, 11s. 50 Grey's Brewery, 100 So. Indian, £2 19s. 6d.  
150 Devons, £12 1s. 6d. 150 Grey's Brewery, 100 So. Indian, £2 19s. 6d.  
60 Derwent, 27s. 6d. 25 Hinstone Down, 100 Tincroft, 30 Wheal Grenville, £9.  
50 Deva-Moyar, 40s. 100 Indian Glenrock, 46s. 6 10 West Kitty, £4 1/2.  
30 Dolcoath, £5 1/2. 20 Leadhills, 4s. 50 W. Godolphin, £2.  
20 East Lovell, £2 1/2. 100 Le Plata, 27s. 6d. 50 Wheal Jewell, £2.  
5 East Pool, £2 1/2. 15 Mona, £12. 100 Wheal Boys, £2 1/2.  
SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

Mr. BUMPUS devotes special attention to these Securities, and is in a position to afford reliable information and advice to intending investors and others.

The following are recommended for an early and important rise in value:—  
WHEAL GREENVILLE. NEW TRUMPET CONSOLS.  
WEST GODOLPHIN. NEW PEVOR.  
WHEAL BOYS. WEST KITTY.

Shares supplied at close prices on application.

WILLIAM HENRY BUMPUS, SWORN BROKER.  
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ESTABLISHED 1867.

**F**ERDINAND R. KIRK, STOCKBROKER,  
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Fortnightly Accounts opened in all Stock Exchange Securities on receipt of the usual cover.

BANKERS: LONDON AND WESTMINSTER, Lothbury.

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ESTABLISHED 1861.  
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Parry Corporation, West Holway. Wheal Grenville.

And is in an advantageous position to supply shares at close net prices. Buyers or sellers should communicate. A selected list of investments post free on application.

GREAT HOLWAY and NEW TRUMPET CONSOLS shares should be purchased for an important rise in price.

### THE PROSPECTUS OF THE DRAKE WALLS UNITED TIN AND COPPER MINING COMPANY (LIMITED)

appears in this week's "Mining Journal," page 543. Prospectuses and Forms of Application may be had of—

Messrs. PETER WATSON & COMPANY,

British and Foreign Mining Offices,  
18, AUSTIN FRIARS, LONDON, E.C.

The CLOSING of the LIST will take place on or before MONDAY next, the 9th May, when it is expected that the applications for shares will far exceed the number to be allotted. Early applications should, therefore, be made.

Messrs. PETER WATSON and CO. will do their best to secure an allotment of shares for their friends and business connections.

All cheques should be crossed—

THE ALLIANCE BANK (LIMITED),

the Bankers of the Company.

Offices: 18, Austin Friars, London, E.C.

### BRITISH AND FOREIGN MINING OFFICES.

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BANKERS: THE ALLIANCE BANK (Limited).

MESSRS. PETER WATSON AND CO.'S BRITISH AND FOREIGN MONTHLY MINING NEWS—STOCK AND SHARE INVESTMENT NOTES—MINES, MINERALS, AND METAL MARKETS—SHARE LIST, No. 829, VOL. XVI., for APRIL month, is now ready, and will be sent to customers on application.

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ESTABLISHED 1853.

### CAUTION TO INVESTORS.

The PUBLIC are cautioned against purchasing Shares in Mines estimated to make FABULOUS and IMPOSSIBLE RETURNS of LEAD and TIN. Investors who have subscribed for Shares on the faith of such promised returns should sell at once.

### SPECIAL TO INVESTORS.

For SOUND ADVICE and PROFITABLE INFORMATION, every INVESTOR before purchasing Shares should consult the INVESTOR'S GAZETTE. New number ready LAST EVENING. Post free Three Stamps.

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ESTABLISHED 25 YEARS.

BANKERS: LONDON JOINT STOCK.

### WEST KITTY.

Mr. REYNOLDS has consistently recommended the purchase of shares in this Mine for investment, and is now justified in recommending them in stronger terms than ever. He is prepared to buy any number at the market prices, or to sell a limited quantity at a fair figure. He sees no reason for doubting that the shares will double in value ere long.

### NEW KITTY.

Mr. REYNOLDS is also a Buyer of shares in this property, and advises purchase for investment.

### WEST POLBRENN.

Mr. REYNOLDS is also prepared to treat for the purchase of shares in the above, which he likewise strongly recommends.

### MONEY.

**R**EYNOLDS ON INVESTMENTS.  
Revised and corrected, but not enlarged.  
SECOND ISSUE, containing much in little, and invaluable practical hints.  
Forwarded gratis on application to—

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MINING INVESTMENTS.—Second Edition, just published.  
"What to Select, and What to Avoid," by ALFRED THOMAS, 10, Coleman-street, London, E.C. Will be forwarded on receipt of 12 stamps.

**C**APITALISTS, SHAREHOLDERS, TRUSTEES, Should act only upon SOUND ADVICE and Reliable Information. Read SHARP'S INVESTMENT CIRCULAR. The MAY EDITION contains 12 pages (post free).

SAFE DIVIDEND INVESTMENTS PAYING 4 TO 6 AND 10 PER CENT. PER ANNUM ON PRESENT OUTLAY.

It is Reliable "Guide," giving valuable information and Sound Advice, &c. It gives Market prices; Dividends upon outlay, when payable; Reports, &c., &c.

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**H**ENRY GOULD S. H. A. R. P., STOCK AND SHARE BROKER, 21, THREADNEEDLE STREET, LONDON, E.C.—ESTABLISHED 1852.

BANKERS—London and County Bank, Lombard-street, London, E.C.

**M**R. E. J. BARTLETT, BRITISH AND FOREIGN STOCK AND SHARE DEALER, NO. 30, GREAT ST



Application for 15,000 Shares have already been received, and the remaining 35,000 Shares are now offered for subscription.

THE  
**DRAKE WALLS UNITED TIN AND COPPER  
MINING COMPANY, LIMITED.**

INCORPORATED UNDER THE COMPANIES ACTS, 1862 to 1880, WHEREBY THE LIABILITY OF SHAREHOLDERS IS LIMITED TO THE AMOUNT OF THEIR SHARES.

CAPITAL, £50,000, IN 50,000 SHARES OF £1 EACH.

PAYMENT AS FOLLOWS:—

5s. per Share to be paid on application, and 10s. per Share on allotment. The balance of 5s. per Share will not be called up without three months' previous notice being given.

DIRECTORS.

The Right Hon. **LORD CLAUD HAMILTON**, Director of Devon Great Consols Company, Limited, and of the Devon Great United Company, Limited.

**Sir JAMES BAIN**, Ironmaster, Harrington, Cumberland, and Park Terrace, Glasgow.

**HUGH STANLEY MORRIS**, Esq., Director of Devon Great Consols Company, Limited, and of the Devon Great United Company, Limited.

**JOSHUA HEYWOOD COLLINS**, Esq., of Messrs. Edward Collins and Son, Paper Manufacturers, Kelvindale, Glasgow.

**HENRY WILSON**, Esq., Director of the Kit Hill Great Consols Company, Limited, and Tankerville Great Consols Company, Limited.

**ROBERT KING**, Esq., of the Hurlet and Campsie Alum Company, Glasgow, and Leverhulme.

LONDON MANAGER.

**Mr. PETER WATSON** (Chairman and Managing Director of the Devon Great Consols Company, Limited, and Director of the Great Laxey Company, Limited, &c.)

Bankers—**THE ALLIANCE BANK, LIMITED**, Bartholomew Lane, London, E.C.  
**THE CLYDESDALE BANKING COMPANY**, Glasgow.

Solicitors—**Messrs. ANDERSONS AND PATTISON**, 137, St. Vincent Street, Glasgow.  
**G. H. BARBER**, Esq., 34, Old Jewry, London, E.C.

Auditors—**Messrs. J. and W. GRAHAM, C.A.**, 212, West George Street, Glasgow.  
Secretary—**WILLIAM A. HAY**, Esq.

OFFICES—18, AUSTIN FRIARS, LONDON, E.C.

**The Subscription List will be Opened on 30th April, and Closed on or before 7th May for London, and 9th May for the Country.**

This company is formed for the purpose, among other things, of purchasing the leases or grants held under the Duchy of Cornwall of the mines situate in East Cornwall, heretofore called the Drake Walls Tin and Copper Mine and West Drake Walls Mine, but better known as the Old Drake Walls Mines, together with the extensive and valuable plant, machinery, and materials thereon, and the freehold and copyhold property attached thereto.

It has been proposed to form this company chiefly on account of the late company being conducted upon the Cost-Book System, which, as is well known, is now found unsuitable for large undertakings with a numerous membership, and for the further purpose, in the improved circumstances of the mines, of bringing to bear upon them a vigorous management, together with an adequate capital for the due development of their great resources.

The mines have been acquired provisionally as a going concern, and are now offered at the price of £25,000 to a company, to be called the Drake Walls United Tin and Copper Mining Company (Limited).

The mines are situated on the western side of the River Tamar at the eastern end of the Kit Hill and Hingston granite range, which abounds in some of the richest and most productive metallic mines in Cornwall and Devon. The celebrated Devon Great Consols and other productive and profitable mines are in the immediate neighbourhood.

The mines are among the oldest in Cornwall, their history dating back more than 200 years. They have been worked in open cutting for about 400 fms. in length and about 50 fms. in depth, and in some places 50 ft. in width. It is impossible fully to realise the vast quantity of tin and copper which has been sold from the mines but it is on record that during the last 20 years' operations not less than £260,000 worth of tin has been sent to the market and sold. This, taken as an average, would represent a sum of about two millions realised in tin ores from the commencement.

Capt. William Teague, manager of the Carn Brea, and Tincroft and other extensive and profitable mines in Cornwall, reported very favourably upon the property in 1873, when it was acquired by the late company, and in doing so made a variety of suggestions for improvement upon the mode of working. The suggestions made by Capt. Teague have since been carried out at great expense, and among the improvements made was the erection of first-class engine of 40 in. cylinder, with 56 heads of stamps attached. Black tin, however, which in 1873 was £84 per ton, gradually came down to about £30 per ton, and in consequence the company, during the long and severe depression in the metal market and trade generally, preferred to suspend operations in a great measure, and to employ their

time and means, with a view to future economy, in driving a deep adit or day level, so as to keep the mines free of water without the heavy cost of pumping to the surface by steam power. Such an adit or day level had been begun some time before near the eastern boundary of the River Tamar, and had then been driven about 100 fms. This great work was recommended by leading authorities in the mining world, and although former experience had proved it to be an enterprise of hazard and extreme difficulty, the late company have been able, by means of rock-drills driven by compressed air, to continue the level 200 fms. further, leaving now only about 40 fms. betwixt it and the old workings at a depth of 72 fms. The value of this mining work cannot easily be over estimated, for it will save thousands of pounds per annum in pumping the water from the workings to the top of the hill. But this is not the only benefit which has been secured by the adit, for on the whole length of its drivage there has been opened up a copper lode which will yield large quantities of ore.

The attention of the company, however, having been mainly directed to driving the adit alongside the lode, the lode itself has been left intact and has been cut through in only one place, with the satisfactory result of proving it to be 12 ft. in width, highly mineralised throughout, and containing rich black copper ore. This lode itself is as sound a mining speculation as could be wished, as by a cross-cut at the 70 from the old mines, the lode on which the adit has been driven was formerly intersected, and although opened on for

only a few fathoms, copper ore amounting to £800 was sold from it. As soon as a communication is effected with the old workings this lode can be extensively worked to a very great length, and it is believed with very profitable results to the shareholders, as it will be left free from water for 72 fms. from the surface and be perfectly ventilated.

The first object of the company will be to complete the communication betwixt the deep adit or day level and the old workings, which is being energetically carried forward at present so as to keep the mines permanently dry to a depth of 72 fms. It is expected that the short remaining drivage will be completed, and the mines thereby drained, within from two to three months, and the company will thereafter proceed to develop the well-known rich veins or lodes of tin in the extensive levels which have already been driven considerable distances, thus laying open good reserves of tin ground ready to be brought to surface for stamping and sending to market. It is believed that by a vigorous prosecution of this extensive run of mines, and by the employment of numerous rock-boring drills worked by machinery, large quantities of tin will be returned at great profit. So soon as, by the further development, the junction of the various

lodges in the deeper levels has been reached, it is fully expected that the returns will be largely increased, and that Drake Walls Mines will again take rank amongst the leading tin mines of the country.

An inventory of, and report upon, the present plant and machinery upon the mines accompany the prospectus. The plant, machinery, and buildings in and on the mines could not, it is believed, be purchased and placed in position under between £30,000 to £35,000. They are of the most complete description, and considered of ample power, and being well adapted for the requirements of the mines but little outlay will be further requisite beyond a liberal expenditure in machinery and materials for working rock drills, by the application of which it is believed as much will be accomplished in twelve months as was done by previous workers of the property in three or four years. The surface having also been prepared for active operations, no time will be lost in sending tin to market so soon as the underground workings are resumed.

The public railway now passes through the property to the navigable River Tamar, so that the carriage for coals, timber, iron, and the tin and copper ore, &c., is merely a nominal figure.

The mines have special rights to an abundant supply of pure water, gathered from a large area on the hills, and impounded in reservoirs; and the ground is naturally adapted for taking advantage of the supply for dressing purposes to any extent that may be required.

The Glasgow directors are members of committee of the late company; they and other shareholders of that company have resolved to continue their interests in the mines, and have already applied for a large number of shares in the company.

The only contract entered into is an agreement dated 21st April, 1881, and made between John Campbell MacCall, jun., of the first part, and William Alexander Hay, on behalf of the company, of the second part.

In the event of a larger number of shares being applied for than the number allotted, the surplus deposit will be applied towards the payment of the amount due on allotment.

Should no allotment be made, the deposit paid on application will be returned in full.

Applications for shares must be made on the enclosed form, accompanied by a deposit of 5s. per share, and sent to the bankers of the company.

Prospectuses and Forms of Application may be obtained from the Solicitors and Bankers, and at the offices of the company, 18, Austin Friars, E.C., where prints of the Memorandum and Articles of Association, and of the said agreement, can be seen.

April, 1881.

## DRAKE WALLS REPORTS:—

REPORT BY MR. WILLIAM MATHEWS, ENGINEER TO THE DEVON GREAT CONSOLS COMPANY (LIMITED).

I beg to report on the machinery at these mines as follows:—The 50-in. pumping-engine is in good order, but the two boilers want some repairs. There are attached to this engine about 100 fms. of pumps and the necessary gear. The 40-in. steam engine, with two boilers, are in very good condition, and can be set to work at any time when required. There are attached to this engine 56 heads of stamps and the necessary dressing machinery, all in good repair. These stamps are capable of pulverising 60 tons of lodestuff per day. The 27-in. cylinder winding-engine has been thoroughly repaired, and is working satisfactorily. The 45-ft. water-wheel (known as the winding-wheel) is in good repair, and has attached to it 12 heads of stamps. The 30-ft. water-wheel, driving 12 heads of stamps, and the 18-ft. wheel, also driving 8 heads of stamps, are in good working condition. The 45-ft. wheel, formerly used for pumping, is put to drive 12 heads of stamps, and is in good repair, and working satisfactorily. Together these wheels are driving 44 heads of stamps. In the six winter months these would pulverise about 25 to 30 tons per day. There is also an engine and boiler, with air compressor and winding gear attached, at mouth of deep adit, which were erected about two years since, for driving the rock drills in said adit. This machine, with the three rock drills, are working satisfactorily.

WILLIAM MATHEWS.

## INVENTORY OF PLANT, MACHINERY, &amp;c.

## SURFACE.

One 50 inch pumping engine.	15 lbs. per yard.
Two 11 ton boilers.	Three rock boring machines, with attachments.
One balance bob.	One water wheel, 45 ft. by 3 ft. 6 in.
One 40 inch stamping engine.	Twelve heads of stamps.
Two 10 ton boilers.	Drawing machine attached thereto.
Two large fly wheels.	One water wheel, 32 ft. by 3 ft.
Fifty-six heads of stamps and appliances, now.	Twelve heads of stamps.
Dressing floors, complete, connected therewith.	Round bouldles and water wheel for working same.
One 27 inch winding engine, recently repaired, now equal to new.	One water wheel, 28 ft. by 3 ft.
One 10 ton boiler.	Nine heads of stamps.
One 12 inch high pressure engine, compressor and receiver, with drawing gear attached.	One water wheel, 45 ft. by 3 ft. 6 in.
Three hundred fathoms 1½ inch steam tubing for conveying air to rock drills.	Twelve heads of stamps.
Three hundred fathoms bridge rails, CARPENTER'S SHOP—Benches, &c., &c.	Drags and bouldles.
SMITH'S SHOP.	One Brenton's revolving calciner.
Two bellows—two anvils. Tools. Large quantity of wrought and cast iron.	One water wheel for working ditto. Sheds over dressing floors.
DYR.	Three round bouldles.
Large wrought iron tube. Tramways from shafts to stamps, with various flat rods and attachments for working a large mine.	One water wheel for working ditto.
UNDERGROUND.	
Engine shaft, cased and divided with all the pitwork from surface to 90 fm. level, complete.	8 inch drawing lift from 70 to 80 fathom levels.
Two 13 inch poles to 40 fm. level.	10 inch drawing lift from 90 to 102 fathom levels.
One 12 inch pole at 70 fm. level.	Fifty fathoms 8 inch pumps from shaft to reservoir.
One 11 inch pole at 90 fm. level.	

Matthew's SHAFT.

Newly timbered to firm ground. Skip road to within 8 fathoms of 40 fm. level. Poppel heads, new.

## WESTERN SHAFT.

Double skip road to 70 fathom level. And all other plant, articles, and things in and upon the said mines, of and belonging to the vendor.

## DRAKE WALLS MINES.

Tamar View, Tavistock, 23rd April, 1881.

The situation of these mines is on the south-eastern slope of the Kit Hill and Hingston granite range, and occupy a position with regard to the granite precisely similar to the celebrated Bude, Tincoff, and Carn Brea Mines; the length of the sets on the course of the lodes being about 2 miles. It is remarkable that these mines—although being some of the oldest in Cornwall—are only 100 fms. deep, and were for more than a century worked in open cutting, the lodes being from 50 to 60 ft. wide in many places, and operations were so extensive as to induce the proprietors to erect their own tin smelting works on the property, and which must have been very successfully carried on for many years. From a very early period in the history of these mines the great object of successive companies has been to drain the water by means of a deep adit which was started near the River Tamar, on the eastern boundary, and which has since, on many occasions, been taken up and attempted, but failed in accomplishment until the late company in 1878, acting on my advice, re-started this most important work, and I am pleased to say that the adit is now driven for nearly 300 fms. in length, leaving only about 40 fms. to be further driven to reach the main workings on the great tin lode, from which the water is now daily receding rapidly, and very shortly the whole of the valuable tin and copper lodes will be drained to a depth of 72 fms., and immediately thereafter operations can be commenced on the profitable lodes, which may be wrought to almost any extent free of water charge. The late company in 1875 reached an output of 25 tons of black tin for four weeks, which quantity at the present price and free of water charge would leave a very handsome profit, and I see no reason or cause why a much larger output than this cannot be made. I would also beg to say that the deep adit has been driven for more than 200 fms. by the side of a large side, and from which considerable quantities of copper ore were returned by the old company, and in the late drivage this lode has been proved in two places to be 12 ft. wide and highly mineralised, containing yellow and black copper ore, and sulphur mundic, and is of itself a speculation of no ordinary character, as it is the opinion of all practical miners who have seen it that large returns of copper ore will be made therefrom, and as soon as a communication with the old mine is effected this lode will be thoroughly ventilated, and, no doubt, extensive and profitable returns made. I have known these mines for more than 30 years, and can speak of the importance of the work which has been so nearly completed by the late company, and I am fully persuaded that on completion of the deep adit, and resuming the deeper development of these grand old mines, they will again take their position as some of the most profitable mines of Devon and Cornwall. I held a number of shares in the late company, and shall be prepared to take a considerable interest in the new one about to be formed, feeling assured that I shall be repaid with good interest for the outlay.

MOSES BAWDEN.

Manager for the late Drake Walls Tin and Copper Mining Company, and the present purser of the Devon Great Consols Company (Limited), the Devon United and Kit Hill Consols (Limited), and Wheal Crebore Mines.

P.S.—There is a large plant and machinery on the mines, which must have cost over £30,000 to place there.

## DRAKE WALLS MINES.

Devon Great Consols, Tavistock, 25th April, 1881.

These mines are situated in the parish of Calstock, in the County of Cornwall, on the western bank of the River Tamar, having an extent of ground of from 1 mile to 2 miles in length on the course of the lodes westward, running into the granite formation of the Hingston Down and Kit Hill. Embraced within the limits of the setts are several tin and copper lodes. The explorations, however, by former proprietors were principally, until very recent date, confined to the tin-bearing lodes which have been worked upon for a great number of years, extending to about 100 fms. in depth. From these workings, which are some 400 fms. in length, very large quantities of tin have been returned, and there being a great length of ground to the westward as yet unexplored, in which the lodes in all probability as they get into the granite formation, and as depth is attained, will be found more productive than they hitherto have been. I consider the future of this part of the mines will prove, if fairly prosecuted, most successful. During the past two years the adit level (commenced many years ago) has been extended upwards of 200 fms., leaving only some 40 fms. more to drive to effect a communication with the old workings, and which will drain the same to the depth of 70 fms. This is a point of great importance, inasmuch as in all probability large quantities of mineral will be found from this depth to near the surface in the western portion of the sett, as was the case in the former explorations which were worked open from the surface for some 50 fms. in depth. This adit just referred to has been driven the greater part of the distance by the side of a copper lode, which by a former company was worked upon at about the 70 fm. level reached by cross-cut from the old workings, and from which many tons of copper ore were raised. This lode has been recently cut through in the adit level, and found to be of large size—12 ft. wide—and of a very fine character, being composed of cassiterite, quartz, pyrite, mundic, and some sulphurite, and black oxide of copper, and will if properly developed, in my opinion, prove highly productive as the workings are extended upon it in depth. In conclusion, I would observe that looking at the situation of these extensive mines, being on the junction of the granite and killas formation, and having many lodes, veins and cross-courses traversing the sett, such as are found to exist in all of the most productive mines in Cornwall, together with the very great advantage of being enabled to work at such comparatively easy water-charge, as soon as the deep adit level shall have been communicated with the old workings, I consider Drake Walls Mines to be a very valuable property, and if energetically worked will return large quantities of mineral, leaving good profits to the proprietors.

ISAAC RICHARDS.

Manager of Devon Great Consols Mines (Limited).

No.....

## THE DRAKE WALLS UNITED TIN AND COPPER MINING COMPANY (LIMITED).

In 50,000 Shares of £1 per Share.

## FORM OF APPLICATION FOR SHARES.

(To be retained by the Bankers.)

To the Directors of the Drake Walls United Tin and Copper Mining Company (Limited).

GENTLEMEN.—I shall feel obliged by your allotting to me shares on which I have paid a deposit of 5s. per share to the company's bankers; and I agree to accept such shares subject to the Memorandum and Articles of Association, and to pay the further sum of 10s. per share on allotment, and the balance of 5s. per share when required, and I hereby authorise you to place my name on the Register of Shareholders in respect of such shares as may be allotted to me.

Usual signature.....

Name in full.....

Residence.....

Dated ..... 1881. Profession or business.....

This company will have the right to use the now celebrated Designolle's patented process, by which, practically, the whole of the gold contained in ores of all descriptions is completely separated from the gangues and other impurities in which it is distributed.

It is, therefore, of special value for these mines, which contain enormous deposits of auriferous pyrites or sulphurites, and according to the result of many assays, made by Mr. Designolle's, gave as high as 5 ozs. of gold to the ton.

The value of the patent is evident from the fact that the St. John del Rey Mining Company, according to its report, has sustained an annual loss of from £25,000 to £25,000 in gold, which by the ordinary method of extraction it is impossible to recover, whereas by the use of the Designolle's patent the whole (or nearly so) of this amount would be saved.

## The Keystone Gold Mining Company (LIMITED).

Incorporated under the Companies Acts, 1862 to 1880, whereby the liability of Shareholders is limited to the amount of their shares.

CAPITAL £125,000, IN 125,000 SHARES OF £1 EACH,

Of which 40,000 Shares are reserved as part payment to the Vendor.

Payments as follows:—2s. on application, 3s. on allotment, 7s. 6d. on the 15th June, 1881, and 7s. 6d. on the 15th July, 1881.

In the event of no allotment being made, amounts paid on application for Shares will be returned in full. The vendor guarantees a dividend of 7 per cent. for one year from date of allotment of shares on the paid-up capital in order to give sufficient time for the erection of additional machinery. To secure this dividend a sufficient amount will be retained and invested in Consols by the Directors on the completion of the purchase.

## DIRECTORS.

ROBERT ANGUS, Esq., 69, Holland Road, Kensington, Director of the Mysore Reefs Gold Mining Company (Limited).

Sir WILLIAM CROSBIE, Bart., Director of Great Wheal Polgoon.

Sir RICHARD GETHIN, Bart., Chairman of Quartz Hill Gold Mining Company.

Major RUDKIN, Oak Holme, Newport, Isle of Wight.

H. S. WILDE, Esq., Director of the Eureka (Nevada) Silver Mining Company.

(With power to add to their number.)

BANKERS—The IMPERIAL BANK (Limited), Lothbury, E.C.

SOLICITORS—Messrs. G. S. and H. BRANDON, 15, Essex Street, Strand, W.C.

BROKER—ARCHIBALD J. SMYTH, Esq., 16a, Tokenhouse Yard, E.C.

AUDITORS—Messrs. TILLY and CO., Chartered Accountants, 37, Queen Victoria Street, E.C.

SECRETARY—THOMAS ORCHARD, Esq.

TEMPORARY OFFICES—62, MOORGATE STREET, E.C.

## PROSPECTUS.

This exhaustive process the directors believe is now found in the Designolle's system.

It need hardly be pointed out that the above figures show a serious annual loss, which if recovered by the Designolle's process would represent a large additional dividend.

Trials on a working scale have been made in Paris during the past year, and also on the mines of this company in America, and it is estimated that the total cost of mining and extracting the gold by this patented process does not exceed 4s. per ton.

Considerable attention has lately been attracted to this process from the fact that by means of it gold has been extracted from the pyrites which exists in such large quantities in the province of Huelva in Spain, the mines of which are worked by the Rio Tinto, Tharsis, and other companies.

It will be seen from Mr. McCarthy's report that the facilities for working are so great that 4s. is an ample estimate for the cost per ton in treating the surface ores, increasing according to the depth up to 6s. Taking the average value of the ore at only 28s. per ton, instead of 51s., according to Mr. McCarthy's assays, and the cost of treatment at 8s. instead of 6s. per ton, a profit of £30,000 per annum would be realised by the treatment of 100 tons daily, taking 300 working days in the year; but, on the basis of Mr. McCarthy's estimates, a profit of over £100,000 per annum may be reckoned on. The directors propose to commence with 100 tons daily, and augment as quickly as possible.

One of the four mines purchased by the company, the Parrish, which is about ½ mile distant from the Jones, is large enough to be worked as a separate undertaking. It may be desirable hereafter to sell that to a new company when its great value has been proved.

The vendor is bound by agreement to place in the hands of the directors an amount of Consols sufficient to pay 7 per cent. on the capital for the first year, which will ensure the payment of a dividend during the time necessary for the erection of additional machinery to work the mines on a large scale.

The only contract entered into is dated the second day of May, 1881, and is made between John Norris of the one part, and Thomas Orchard, as trustee for the company, of the other part.

The vendor is the promoter of the company, by whom the purchase-money for the properties, including the right to use the Designolle's process, has been fixed at £60,000 in cash, and £40,000 in fully paid-up shares of the company, and the vendor undertakes to defray all costs and expenses of agency, advertising, printing, and all legal and other charges incidental to the formation and establishment of the company up to the allotment of shares.

The accompanying report herewith enclosed contains fuller information than can be furnished in the body of a prospectus.

The above-mentioned contract, and the Memorandum and Articles of Association and report can be seen at the offices of the solicitors to the company.

Prospectuses and Forms of Application for shares may be had at the Bankers, Brokers, or Solicitors, or at the offices of the company.

It is intended to apply to the Committee of the Stock Exchange for an Official Quotation.

## The South Polgoon Consols, Limited.

CAPITAL £65,000, IN 65,000 SHARES OF £1 EACH.

Of which 15,000 are reserved as part payment to the Vendor, and the balance of 50,000 is now offered for subscription at par. Payable as follows:—2s. 6d. on application, 7s. 6d. on allotment, and 10s. on the 1st June, 1881.

## DIRECTORS.

The Right Honourable Lord HEADLEY, Carlton Club—CHAIRMAN.

HAMPDEN WHALLEY, Esq., M.P., 18, Gloucester Place, Portman Square, W.

G. P. HEINE, Esq., 216, Piccadilly, W.

Colonel MALLESON, C.S.I., 27, West Cromwell Road, S.W.

P. PENN GASKELL, Esq., 14, Hertford Street, Mayfair.

MINING AND RESIDENT ENGINEER AT MINES—Mr. T. R. PARKYN.

BANKERS—THE NATIONAL PROVINCIAL BANK OF ENGLAND (LIMITED), and all its Branches.

SOUTH CORNWALL BANK, St. Austell, Cornwall.

SOLICITORS—Messrs. HARWOOD AND STEPHENSON, 31, Lombard Street, E.C.

BROKERS—Messrs. R. B. SMITH AND CO., 5, Angel Court, Throgmorton Street, E.C.

AUDITORS—Messrs. PRICE, WATERHOUSE, AND CO., 44, Gresham Street, E.C.

SECRETARY (pro tem.)—E. SMITH, Esq.

OFFICES—11, QUEEN VICTORIA STREET, E.C.

REPORT OF SUPERIOR QUALITY OF TIN.

Carvedras Tin Smelting Works, Truro, Cornwall, May 3, 1881.

SOUTH POLGOON CONSOLS.

We have pleasure in stating that the parcels of black tin purchased by us from the above mine during the last six months have realised more than the average market price of the day, owing to the good quality and high produce of the tin.

(Signed) DAUBUZ AND CO.

## IMPORTANT TELEGRAMS FROM MINE.

## FOREIGN MINES.

**RICHMOND CONSOLIDATED.**—Telegram from Eureka, Nevada, dated May 3: Week's run, \$50,000, from 550 tons of ore; refinery, \$45,000.

**ALMADA AND TIRITO CONSOLIDATED.**—Telegram from Mr. Clemes: April 16: Profit for February, \$1100. Drought increases.

**PORT PHILLIP AND COLONIAL GOLD.**—Telegram, dated Melbourne, April 29: Month ending April 20—Remittance, \$600.

**PIERREFITTE.**—April 23: The manager reports as follows: The portion of the lode being carried with the No. 2 level has improved since my last report; it now yields 2 tons of lead ore and 5 tons of blonde per fathom. As this level is being driven in virgin ground, the importance of the discoveries being made will be readily seen. There is no change to notice in the No. 3 level; the ground continues favourable for driving. No. 2 stope, over No. 1 level, yields  $\frac{1}{2}$  tons of lead ore and  $\frac{1}{2}$  ton of blonde per fathom; No. 3, below No. 1 level, 8 tons of lead ore and 3 tons of blonde per fathom. A parcel of 105 tons of second-quality ore has been sent off this week. Another parcel of 300 tons will be ready to sample in a few days.

—April 30: The manager reports as follows:—The lode in No. 2 level yields 2 tons of lead ore and 4 tons of blonde per fathom; a fine lode; No. 3 level continues favourable for driving. No. 2 stope, over No. 1 level, yields  $\frac{1}{2}$  tons of lead ore and 1 ton of blonde per fathom; No. 2 stope, below No. 1 level, 9 tons of lead ore and 3 tons of blonde per fathom; No. 3 stope, below No. 1 level, yields  $\frac{1}{2}$  tons of lead ore and 3 tons of blonde per fathom. No. 7 stope has been suspended (as well as others previously), and No. 8 must be, on account of the accumulation of ores in them, and by which they are filled, thereby preventing their being worked further until the ores are cleared out. Our dressing operations are progressing with regularity. The very heavy rains of the past week have somewhat retarded our surface works; 80 tons of ores have been sent down over the cable during the past week, and about 70 tons have been broken from the stope, &c. The quantity broken is less than it otherwise would be, as some of the men engaged in stoping have been employed elsewhere.

**PITANGUI GOLD.**—The directors have received advices from Mr. T. S. Treloar (April 2), confirming the produce for March—3514 oits of gold, as advised by cablegram, equivalent, at \$8. 6d. per oitava, to 1493L 9s. sterling. Mr. Treloar writes:—The produce for the month just ended amounts to 3514 oits, derived from 510 tons of washed Ouro Poder mineral, and 246 tons jacotings from the Francisco Antonio and Dias's sections; all of which mineral had been treated together, the first-named being too soft and clayey to be stamped alone. The greater portion of this gold has been obtained from the Ouro Poder stuff, but there is, I am pleased to state, a considerable improvement in the Francisco Antonio vein. We still have on hand some 500 tons of washed mineral, and during the current month (April) most, if not the whole, of this will be disposed of; we shall then have to depend upon the jacotings veins for produce, since no attempt can be made to resume operations on the Ouro Poder below the 30 fm. level, in consequence of the quantity of water at that horizon. The 15 fm. level within the last week has entered very favourable ground, and the progress now being made is such that we expect to get under the old workings on the Jose Goncaldo and neighbouring veins in the course of another fortnight. There is no change to notice in Dias's section."

**RUBY AND DUNDBERG CONSOLIDATED.**—April 10: Dundberg: The 700 ft. level has been advanced 21 ft. during the week; total from the shaft, 300 ft. The ore in the stope above the 600 ft. level is somewhat smaller, but is of a better quality and looks favourable for getting larger, as it has increased in size considerably in the last few days. The winze below the 600 has progressed 10 ft. during the week; total below the 600, 55 ft. The ore body has pitched east or into the footwall at a point about 6 ft. above the bottom; a cross-cut will be commenced in a few days to prospect this ore and ascertain its size. The 600 has been advanced 24 ft. during the week; total, 626 ft. from the shaft; a small seam of good ore, varying in size from a few inches to a foot, was encountered during the week, and drilled out for a distance of 15 ft.; it still continues in the face of the drift in very promising looking ground. The ore in the stope above the 400 ft. south drift from the west cross-cut is improving in quantity and quality; it is now about 3 ft. wide, and in favourable looking ground. The 400 south drift from the west cross-cut has not been advanced any during the week, but a winze has been sunk near the end 20 ft. in ore from 2 to 3 ft. wide. Work has been discontinued at the rise near the end of this drift, but will be resumed again as soon as practicable. The 300 west cross-cut is in harder ground now than it has been at any time since it was commenced; progress this week, 5 ft.; total, 480 ft. from the north drift from the old incline. Have shipped 85 tons of ore this week, and have 35 men, 10 contractors, and 8 tributaries at work. Bullwacker: The ore body on the 180 is not quite so good as last week, but is still producing ore in paying quantities. The intermediate drift between the 180 and 250 has advanced 23 ft. during the week; total from the winze, 47 ft.; a small seam of ore was encountered a few days ago, which is improving as we advance; the ore at present is about 1 ft. wide in the face of the drift. The 250 has advanced 26 ft.; total, 82 ft. from the incline. Have shipped 18 tons of ore this week, and have nine men and four contractors at work.

Telegram received from Eureka May 3:—The week's run from the furnace was \$9500 from 194 tons of ore, producing 33 tons of bullion. The shipments of the week were 139 tons.

**PESTARENA.**—The gold returns for April were as follows:—From Pestarena district, 492 oits, 9 dwt., 2 grs., from 420 tons of ore; yield per ton, 1 oz. 1 dwt. 8 grs. From Val Toppa district, 161 oits, 15 dwt., 12 grs., from 487 tons of ore; yield per ton, 6 dwt. 15 grs. Total, 610 oits, 4 dwt. 14 grs., obtained from 907 tons of ore amalgamated, showing an average yield of 13 dwt. 10 grs. per ton.

**WEST FRONTINO AND BOLIVIA GOLD.**—William J. Goyen: Report for the month of February: The Galiano Lode, Providencia Level: I am sorry to say that we have not been able to continue the retiming of this level for want of a timberman, and shall be obliged to suspend it until the Colombian level is thoroughly repaired, which will occupy three or four months.—Conselio Level: The lode in the end continues as for some time past; the ground is a little harder. In the rise in the back of this level the lode is producing good quality mineral, and is laying open good stoping ground in each end of the rise.—Colombia Lode, Colombia Level: We have made very good progress in repairing this level, and have got through the most difficult part. In order to facilitate the extraction of mineral from this level, as it will eventually be one of our principal outlets, I am carrying a large level 3 ft. high by  $\frac{1}{2}$  ft. wide, and capable of taking a good tramroad if necessary. The ground in the end is without change since my last, and the lode of the same appearance and quality. Since commencing operations on account of the company we have laid open in this level 6 fms. of good stoping ground; we shall not, however, commence stoping until the mill commences to work, when the level will be opened out and secured, through which we shall have to convey the mineral, and we shall then have the necessary plazas or floors finished for depositing the same.—Antioqueno Level: Fair progress has been made in driving this level, and the lode continues to give good quality mineral.—Antioqueno Lode, Antioqueno Level: This level has been driven during the month 10 fms, through a lode from 2 ft. to 3 ft. wide of good mineral, composed principally of red mineral, and pyrites; the lode continues with well defined walls, is easy for driving, and shows an increase in width in the bottom of the level, from which I believe we may depend on soon having a rich and strong lode in the Frontino level. Every fathom we advance on this lode confirms my good opinion of it, and as we get into the main part of the hill I have no doubt that it will still greatly improve.—Frontino level has been driven 5 fms. during the past month; the lode is 3 ft. wide, and rapidly improving both in size and quality.—Surface Works: We have completed the foundation for the new mill, and the stone walls against the stream are almost finished. In order that there should be no danger to the mill from the heavy floods, I resolved on making this work as solid and lasting as possible, so that no further expenses or repairs will be required on it. The carpenters have been busily engaged in erecting the house, and have made very good progress. So as to have ample room for treating the sands the mill house is being erected 53 ft. long by 36 ft. wide, and will give us room for a good carpenter's shop; the carpenters will also be made available for a store-room, rooms for provisions, and for what other purposes may be required. I am pleased to inform the Board that I have made a contract with the owners of the lands for the right of cutting any and all timber that may be required for the establishment for a term of 10 years, by paying to them a rent of \$50 (fifty soft dollars) per annum; this right extends over a tract of forest wood of at least 12 square miles, and will supply us with every kind of timber that may be necessary for building purposes or machinery. In the event of the company at any time purchasing these lands, of course, the rental would cease, and I have no doubt this could be effected on very favourable terms should the Board resolve on doing so.

**FRONTINO AND BOLIVIA GOLD.**—Report for the month of February: 122 tons produced 1797 oits, of gold, average 1 oz 9 dwt. 12 grs. per ton. Gold bought, 266 oits, 4 dwt., equal to 2064 oits, 2 dwt., value; including profit on exchange, \$142. Cost at the mines, at Medellin and in London, 3715L 8s. Paid for gold bought of tributaries, 561L 13s., equal to 4280L 1s. Profit, 861L 19s. In addition to the above cost of 3715L 8s., the sum of 979L 1s. has been spent on capital account. Mr. White reports that the mines are in first-rate condition; the only reason of the profit being so small is the excessive draught; advantage is being taken of this to push on the surface works, the draught affording a favourable opportunity for this kind of work. The total distance of the Pocino Aqueduct is 11½ miles, of this 4 miles remain to be finished. Mr. White states that the aqueduct will be completed within the time he promised.

**ANTIOQUIA.**—Report for the month of February: 68 tons produced 33 oits, average 9 dwt. 5 grs. per ton, value, including profit on exchange, 115L. Cost at the mines at Medellin and in London 238L 8s. Loss, 123L 8s. In addition to the above cost of 238L 8s., the sum of 133L 16s. has been spent on capital account. Mr. J. H. White reports that progress is being made in the development of the mine, and that the next month will, he believes, give better returns.

**CAPE COPPER.**—The 92 fm. level, north east of No. 36 winze at Ootkien Mine, has, since our last, declined in value, having met with a channel of ground, composed chiefly of quartz, but still containing a little copper.

**FLAVILLA.**—April 15: Your letter of the 13th ult. to hand. I am sorry that you are disappointed, and can truly say that I am also. For judging from the similarity of the formations I had fully expected to find the footwall and vein of the mine. But it seems now that all our work has been below the footwall line, but you must bear in mind that all our prospecting through the break is blind work, and that we have no rule or guide by which to go, and I hope you will not look at this as a misrepresentation, but an error in judgment, for it is my intention to give you a fair honest statement to the best of my knowledge. Since I wrote on the 2nd inst. we have taken out about 2 tons of ore from the Brook's south drift, but the face does not look quite as then. In the raise we have gone above 20 ft., and are still in Hinerock, so that there is nothing new to report from that quarter. We are still working six men with the usual expense.

**YORK PENINSULA.**—The directors have received advices from the committee of inspection at Adelaide, with reports from the Kurilla Mine to March 31 last. The following are extracts from Thomas and John Anthony's report: Kurilla Lode: At the 67, east of Hall's shaft, now about 52 fms. from the shaft, the lode has much improved since getting away from the cross-course, and is now worth 5 tons of 16 per cent. ore per fathom. At the 55, east now about 89 fms. from the shaft, the lode is worth about 2 tons of 16 per cent. ore per fathom. The ore in this drift seems to extend further east than at the upper drifts, but the ground is rather hard. The winze sinking below the 55 is going down in a good lode, and when holed to the 67 a good stope will be laid open. The stope in the back of the 55 is worked out, and a new pitch has been set to three men on the south branch of the lode at 6s. 8d. in 12. We have begun to sink a winze below the 45 east of the hauling shaft, to test the value of the lode before setting the stope east of the exhausted one. At the 15 east in the newly acquired section 398, about 28 fms. of lode yielding ore in paying quantity is laid open.

—We are driving south at the 15, by which means we are draining the water and testing the south ground, where it is thought the south lode in section 398 runs

considering the depths obtained.—Morphett's Lode: At the 55 the lode is pinched, and is yielding only 2 tons of 16 per cent. ore per fathom. At the 55 west the lode is the same as at the east drift, while at the 43 and 20 it is too small to pay, though of good quality. The stopes throughout the mine are looking well, and the returns are being fairly maintained. At the 67, the bottom of Hall's shaft, we have commenced to open out the mouth of the proposed tunnel to make room for the boring apparatus.

—We may again call attention to the fact that, in face of the crusher and jiggers being erected, we have been laying by a large quantity of ore that under other conditions we should have sold; this will shortly be utilised, and the ore returns greatly augmented.—Ore Returns: 216 tons had been sold in the colony, and there remained at hand at the mine 1353 tons of 15 per cent., with about 4450 tons of low-class ore of about 5 per cent.

**NEW GOLD RUN.**—April 9: Mill: The mill has done poorly for the past two months, and in spite of the most strenuous efforts to keep down expenses, has run behind. At the present time the bottom is looking better, and I think we are getting out of the barren streak through which we have been running. We are now opened in good shape for working, and have got the track extended to the opposite side of the bedrock towards the Miners' Ditch Company's ground, and are running under the bank on the lead, which prospects well. A general clean-up in the mill and mine will be made about the 15th inst.

The following telegram was received on April 23: "We have cleaned up after a run of 30 days; total produce \$4500."

**SAN PEDRO.**—F. Pechey, March 7: I am pleased to report that during the past month the foot-roads connecting [with the lower levels have been completed, and the work performed in most substantial manner. We are unable to get on as speedily as we could wish, owing to our inability to procure a third timberman to complete the work of the road, and I am hoping soon to hear that you have complied with my request to forward two men from England. [Two timbermen left Liverpool for San Pedro on March 19th last.] This I consider essential to the successful carrying on of the company's work. With this exception we have been thoroughly well supplied with labour; and the system of prompt monthly payments has had the desired effect, fully restoring confidence in the mine. The great work of repairing the shaft has just commenced, and Capt. Lean has gone to Copiapo to inspect some timber previous to my making up with him. The mine shaft has been carried down 10 metres, with most promising appearances of native copper and bronzes on the way down. During the past few days the ground has exhibited a sudden and favourable change; and I believe that a manto or lode of metal is now very close at hand. I expect Capt. Lean will commence to drive on his return.

## ALMADA AND TIRITO CONSOLIDATED SILVER MINING COMPANY (LIMITED).

**MINA GRANDE.**—N. C. Morecon, March 14: I stated in my last that the cross-cut driving west of the 12 winze was suspended. On Monday last we began to stop the back of the 17, south of the 12 winze, and towards the 15 workings. The lode in the stope is ore and in paying quantities at present. To-day we have started an end north from the 15 to communicate with one we intend to drive south of the 17. The object of this is to open up the ore ground standing between the 12 and 15 winze, and also to see if there are any signs of the shoot of ore making in this direction. In the course of a few days we shall start a cross-cut east in the 15, and cut the east wall in the north part of the workings, where the lode is large and strong. I might here state that when we last worked in the 15 we deemed it too expensive to continue the operations for the sake of the little ore in the north end only, as the water must be drawn out, whether we work many or few. We also calculated to work away the ground of value in the north of the 15 from the stope south of the 12 winze; but as you are aware the unlooked-for change in the nature of the lode in the bottom has induced us to investigate anew the ground to the south and east of the 12 winze. We can only hope our efforts may be attended with success in spite of the present gloomy appearance. The stope in back of the 12 has its usual appearance, yielding plenty of black ore. The rise in back of the new west cross-cut is still in a productive lode. We have suspended the stope as it will be more convenient to extract the ore when the big 12 stope reaches this point.

March 21: The stope in back of the 17 is producing good black ore; the lode is 8 ft. wide, of which 2 ft. is solid ore, or 9 tons per fathom. The end south towards the 15 will be started in the course of a few days. The end driving north in the 15 contains a little ore. The cross-cut driving east is in lode matter—quartz and felspar, but no ore; this cross-cut is situated or started from the old 15 winze. In case no ore be met with here, which at present looks very improbable from its sterile appearance, we intend to cut through the lode further to the north of the present point, where there appears to be a greater thickness of lode; this we left formerly on account of it being too poor to excavate. There has no change taken place in the big stope in back of the 12. The rise in back of the tunnel level at the new west cross-cut is still in productive lode.

March 23: The lode in the end driving south of the 12 winze has fallen off a little in value. Stopping is suspended only for a little, until we get a still fixed road to work upon. The lode in the end driving north of the 15 is not very productive at present; the ground is hard, consisting of quartz, a little ore, and felspar. The cross-cut driving east is still in lode matter of a dead and sterile nature. The stope in the bottom has yielded a little ore, but now cut out by felspar. Everything in the 15 as well as the 12 winze and the 17 indicates most clearly that the ore is being cut out by the strong body of felspar coming from the north. I fear the search for ore both in the 15 and 12 winze in our present depth will not be attended with success. The stope in back of the 12 is as productive as usual. The rise in back of the tunnel level in the new west cross-cut is suspended on account of the great expense attending this kind of work. The Mexicans are good general miners, but do not know how to rise through hard ground. We have begun to drive north of the west cross-cut in tunnel level at Mina Grande on the course of the lode; we spoke of doing this some time since. We beg to call your attention to our starting to-day a new cross-cut east at tunnel level in order to intersect the great eastern branch opposite the main branch or large ore course of Mina Grande; we consider this to be a very important point, and hope it will be attended with our finding ore here as in other similar circumstances. We cannot tell exactly how far we have to drive, as we do not know the exact underlie of the great eastern branch, but calculate about 100 ft. more or less. Should the ground be favourable we hope to accomplish the object in 30 weeks or thereabouts.

April 4: The lode in the 17, south of the 12 winze, has a little ore, but scarcely enough to pay the expense of excavation. In the 15 driving north the lode is ore, and will pay the expense of driving. The cross-cut driving east is still in lode matter, but without ore; thus far the lode is 21 ft. wide, of which 10 ft. is the stope in the bottom is getting a little ore. The big stope in back of the 12 is producing as usual an abundance of black ore. The lode in the end driving north of the west cross-cut, tunnel level, is large and strong, but contains little ore. The new east cross-cut driving towards the great eastern branch from tunnel level is still in the eastern part of the Mina Grande lode; 4 ft. and 3-10ths was the result of last week's drive. This cross-cut will henceforth be known as Glujas cross-cut.

**LA VIRGEN.**—March 14: Stopping in back of the 10 is being pushed on with all possible speed; the lode has fallen off a little in value since last week.

March 21: The lode in the stope in back of the 10 is more ore than when last reported.

March 28: There is nothing new to speak of in this stope in back of the 10.

April 4: The stope in back of the 10 is productive of good black ore.

**FIRST LODE.**—March 14: All operations are suspended here for a few days until we fill up the excavation with dead.

March 21: Stopping will be resumed as soon as the excavation is filled up, and the place made secure.

April 4: Stopping is again resumed on the first lode.

**TIRITO.**—March 14: In view of the present aspect of the Mina Grande bottom we have thought it advisable to pump out the water, and drive the 54 fm. level north a short distance, and also to start a winze in the bottom on the course of the lode. The shaft, you are aware, is off the lode, and now in the county rock. It will most likely take us two weeks to get the water out and the places started. We are exceedingly anxious to find a new course of ore somewhere. Should the Mina Grande bunch prove to have given out, we know of no other course to pursue than to sink in search of it again, or to do as we have indicated at the Tirito. Judging from present appearances the Tirito has a better prospect than that of the Mina Grande; still neither are we as we could desire. To prove whether the above points a large amount of money must be spent.

March 28: As soon as the water is pumped out we will attend to the work already indicated in a former report.

**TRIBUTE DEPARTMENT.**—March 21: In the tribute department we have only one pitch working—at the Providencia.

**GENERAL.**—April 4: Water in the mine, wells and creek, I am sorry to say is getting exceedingly scarce; the same thing has taken place elsewhere. It is unusually early in the season to be short of water, and will, we fear, make sadly against us.

April 16: Telegram: Drought increases.

## THE AURIFEROUS MISPICKEL VEINS OF MARMORA.

The gold-bearing mispickel veins of Marmora, Ontario, Canada, formed the subject of an interesting paper read before the American Institute of Mining Engineers at the recent Philadelphia meeting, by Mr. R. P. Rothwell, M.E., the editor of the New York Engineering and Mining Journal. He states that about 30 miles north of the city of Belleville, which is situated on a branch of Lake Ontario, there is found a belt of gold-bearing quartz veins, which present geological, mineralogical, and economic features of great interest to the profession. The district is characterised as a rolling country, with low rounded hills of syenitic granite, overlain on





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## The Mining Market: Prices of Metals, Ores, &amp;c.

METAL MARKET—LONDON, MAY 6, 1881.

IRON.	£ s. d.	£ s. d.
Pig, 3lb., f.o.b., Clyde...	2 7 3-2 7 3	2 7 3-2 7 3
Scotch, all No. 1...	2 8 0	2 8 0
Bars, Welsh, f.o.b. Wales...	5 0 0-5 2 6	5 0 0-5 2 6
" in London...	5 12 6-	5 12 6-
" Stafford...	6 10 0-6 15 0	6 10 0-6 15 0
" in Tyne or Tees...	5 10 0-	5 10 0-
" Swedish, London...	9 0 0-9 10 0	9 0 0-9 10 0
Rails, Welsh, at works...	5 5 0-5 10 0	5 5 0-5 10 0
Sheets, Staff., in London...	7 10 0-8 0 0	7 10 0-8 0 0
Plates, ship, in London...	7 2 6-	7 2 6-
Hoops, Staff.,...	7 0 0-	7 0 0-
Nail rods, Staff., in London...	6 0 0-6 7 6	6 0 0-6 7 6
STEEL.		
English, spring.....11 0 0-18 0 0	11 0 0-18 0 0	
" cast.....30 0-40 0 0	30 0-40 0 0	
Swedish, keg.....15 0 0-	15 0 0-	
" fag. ham.....15 10 0-	15 10 0-	
LEAD.		
English, pig, common.....14 5 0-14 10 0	14 5 0-14 10 0	
" L.B. ....14 10 0-14 15 0	14 10 0-14 15 0	
" W.B. ....14 15 0-15 0 0	14 15 0-15 0 0	
" sheet and bar.....15 0 0-	15 0 0-	
" pipe.....15 5 0-	15 5 0-	
" red.....16 10 0-	16 10 0-	
" white.....21 10 0-23 10 0	21 10 0-23 10 0	
" patent shot.....17 5 0-	17 5 0-	
Spanish.....14 2 6-14 5 0	14 2 6-14 5 0	
NICKEL.		
Metal, per cwt. ....15 0 0-16 0 0	15 0 0-16 0 0	
Ore, 10 per cent. per ton 20 0 0-25 0 0	0 0-25 0 0	
QUICKSILVER.		
Flasks, 75lbs., war. (nom) 6 5 0-6 7 6	5 0-6 7 6	
SPELTER.		
Silesian.....15 5 0-15 10 0	15 5 0-15 10 0	
English, Swansea.....16 0 0-	16 0 0-	
Sheet zinc.....19 15 20-20 5 0	19 15 20-20 5 0	

\* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; 1X 6s. per box more than 10 quoted above, and add 6s. for each X. Terne plates 2s. per box below tin-plates of similar brands.

**REMARKS.**—An almost total absence of any vitality in any branch of the metal trade continues the most prominent characteristic not only as regards legitimate trade, but there is also still a lack of enquiries for speculative account. There is scarcely any eagerness manifested to press sales, while an equal amount of indisposition continues to exist to effect purchases beyond actual and pressing wants. Depression is, therefore, a thing of almost daily occurrence, and is not only caused by the above reasons, but also by the repeated excess in production of some metals. It is somewhat remarkable that the production of a few metals, especially iron, should be maintained at its present enormous rate, for although to a certain extent it may have been accountable a few months back, owing to a strong belief which then prevailed that America would again soon give support to the markets by effecting renewal purchases, and producers also believing that through this cause they might experience difficulty in meeting the demand unless they increased stocks, yet this idea can hardly still exist, for not only has America so far shown no symptoms of making fresh contracts, but stocks have now been so greatly augmented, and the productive power in operation in the country is so enormous, that there is not at all likely to be the slightest difficulty in meeting any demand that may arise. It is not improbable but that the vitality which has so frequently been reported in many of the producing districts arises partly, if not entirely, from this cause, and has thus created the opinion that a satisfactory amount of business has been transacted, whereas in reality if activity has been displayed it seems to have arisen not from a good consumptive business being carried through, nor from the execution of any larger or numerous shipping orders, but merely from the over-production which has necessarily tended to swell up stocks, thereby acting adversely instead of beneficially to the interest of the trade; for prices have consequently from time to time greatly depreciated, thus working not only contrary to the interests of sellers and speculators but also to legitimate consignees who having made consignments to various markets have found prices much below the figure at which they bought upon the arrival of the goods at their destination. It is the more surprising, too, that production should be upheld at its present dimensions when consideration is given to the current range of prices, which, if not leaving a positive loss upon every ton made, it is evident that where sales are compelled to be but a very small proportion of profits realised. There is another reason which has been the means of keeping prices low, and to which reference has on previous occasions been made in these columns, and which is the keen competition with which our manufacturers and producers have to contend with foreign makers, and as many of the foreign competitors invariably reduce their prices in a proportionate rate to any reduction which may be made here there seems but little chance of this difficulty being overcome yet awhile.

**COPPER.**—A very poor amount of business only is being transacted in this metal, and notwithstanding that prices are for the most part lower, yet no stimulus has been given to the demand, but rather, on the other hand, business appears to become more and more curtailed in all its branches, and is confined and concentrated within a more limited number of hands. Sellers of manufactured have slightly reduced their quotations for strong sheets, evidently finding that the late advance entirely checked orders, and it is rather remarkable that the price of yellow metal has not also been reduced to its former figure, as there is very little, if anything, doing at the advanced rates. The statistics for last month are extremely unfavourable, since they show an increase in the total visible stock of no less than 3128 tons. This had necessarily had a very depressing influence upon the bar market, and created a stronger desire to realise, and in consequence prices have receded to the extent of 20s. or 30s. per ton. The total public stock on the 1st inst. was 61,685 tons, against 58,557 tons on April 1. This increase, can hardly be reckoned one of surprise, for it will be remembered that the charters from Chile last month were somewhat heavy, and above the usual average, while consumption must have been to some extent retarded by the advance which was made in the price of manufactured, which checked orders for that description, the only necessary reducing smelters requirements of the raw material. The Chilean market opened on Monday at 587. 10s. to 587. 17s. 6d., and remained steady, but quiet throughout Tuesday, but on Wednesday there was a very depressed market, and as low as 577. 15s. was accepted, the official quotation being 577. 15s. to 587. 2s. 6d. Yesterday the price further receded to 577. 12s. 6d., and the closing quotation to-day is 587. to 587. 7s. 6d. The Chilean statistics show the stock in first and second bands in Liverpool and Swansea to have been reduced to 32,060 tons, against 32,164 tons on the 13th ult., the imports during the last fortnight of April being 1060 tons, and the deliveries 1164 tons, against 2608 tons and 2156 tons respectively for the corresponding period of last year.

**IRON.**—This market remains very dull, although prices are for the most part fairly steady, any tendency towards improvement which may from time to time be made in prices being considerably checked by the heavy supplies and the consequent excessive stocks. Under these circumstances buyers, who not unnaturally look for reduced prices shortly being accepted, notwithstanding the present low figures at which iron can be bought, have operated only for their immediate requirements, while their slowness to enter into forward contracts has not failed to bear its influence upon speculative business, for speculators have for a long time past been equally reluctant to enter into fresh engagements, perhaps partly on account of the heavy losses which must have been sustained through the sharp reaction from the high prices which were realised at the early part of last year, but more likely owing to the uncertainty which exists with regard to the immediate future. The shipping trade is very quiet, and much below the average amount of business is doing, limited quantities only being ordered for any of the chief markets. In commenting on the following returns which come from the several leading producing districts, the most striking feature which presents itself is the enormous and overwhelming public stocks, not only in Glasgow and Middlesbrough, but also in other producing districts. Ever since the commencement of the year, and in fact for some time previous, there has been a vast augmentation in the stocks, amounting in Glasgow and Middlesbrough alone to something like 5000 tons per week, and to this cause almost as much as any other must be attributed the present low prices which are ruling.

The Glasgow warrant market has this week for the most part been steady. Monday being kept as a Glasgow holiday, there were no official prices recorded; but the market opened on Tuesday with a dull tone at 47s. 6d., and business was

done up to 47s. 7d. cash; and on Wednesday there was no variation in the price. Yesterday the general quotation was 47s. 7d. to 47s. 7d. cash; the closing figure to-day being 47s. 3d. The total shipments last week were 13,147 tons, against 17,749 tons for the same week of last year, or a reduction of 4602 tons, and which makes the total shipments for the whole of this year 170,331 tons, against 274,098 tons for the same time last year, and 178,371 tons for the corresponding period of 1879. It is rather surprising to see that another furnace has been re-lit, making the total now in blast 122, while the total visible stock has been increased by 2131 tons for the past week, and now amounts to 551,330 tons. The total increase in the stock in this district last month being 11,270 tons. There are warrants in circulation for 519,470 tons.

The imports of Middlesbrough pig-iron into Grangemouth last week were 6200 tons, against 3330 tons for the same week last year, or an increase of 2870 tons, and which makes a total increase this year compared with last of 21,432 tons. The Middlesbrough market reported flat, while the tendency of prices is towards reduced rates, the general quotation for No. 3 being 38s. sellers with buyers a shade under for prompt delivery, two months' prompt being quoted at 38s. 3d. to 38s. 6d. During the week ending on Tuesday last the stock in Connal's stores increased by 2057 tons, amounting to 169,025 tons. The increase in their stock during last month in this district was 7797 tons, the warrants in circulation being for 163,288 tons. There is little or no demand for warrants, which are quoted at about 39s. to 39s. 3d. The exports of pigs last month were rather more satisfactory than was generally anticipated, although not so large as in March, amounting to 78,894 tons, against 81,817 tons. The shipments of manufactured were about 20,000 tons, 14,000 tons of which being sent to Germany, the exports to Holland, Belgium, and France having been rather more limited, while about 1400 tons have been sent to the United States. There is rather more enquiry for nearly all classes of manufactured, and prices in consequence have been rather firmer, the quotation for bars and angles being 54. 10s. ; plates, 6s. 5s.; and for sheets about 7s. 10s. to 7s. 12s. 6d. An improved demand is perceptible for puddled bars, which rule chiefly at 34. 12s. 6d. net.

According to the Cleveland masters' returns for April, there are 119 furnaces in blast, and the total make of all classes of hematites, as well as Cleveland brands, last month was 232,939 tons, being 2000 tons less than in March, while makers' stocks last month increased by 5624 tons. There is a better business doing on the Wolverhampton market in finished iron, increased enquiries for sheets being received from Russia. A rise of 5s. is quoted for sheets (singlings) 7s. 15s. being realised, although doubles have sold at 8s. and trebles at 9s. per ton; 6s. 5s. is quoted for all-mine pigs by many makers, but other makers have accepted 6s. 6d., commoner qualities being slightly easier. Business on the Birmingham market is said to be still very quiet; nevertheless, the tone is rather more cheerful, owing to a slightly better enquiry for export. Makers are tailoring their production in the hope of effecting a reduction in the stocks. There continues to be more enquiry for sheets than for other descriptions, which are mostly quoted at about 7s. for common qualities. High class pigs are firmly held at 6s. 6d. for hot-blast native all-mine, but not much business is doing. Branded and unmarked bars are fairly firm, the former at 7s. to 7s. 12s. 6d. and the latter from 5s. 10s. A dull tone prevails upon the Sheffield market, while prices for the most part continue to rule in buyers' favour. A fair business is said to be doing in the Welsh districts, although prices can hardly be reckoned satisfactory.

It is, however, stated that on account of the very cheap rates at which Spanish ores can be bought manufacturers are enabled to realise small profits from sales at current rates. According to the most recent advices from America a moderately good business is doing in Scotch pigs, although dullness pervades the market. There is no appreciable alteration in quotations, No. 1 Gartsherrie and Glengarnock being quoted at \$22-50, Coltness at \$1 more, and Eglington at \$1 less. The demand for scrap and old rails is quiet at \$28 and \$27-50 respectively. Advice from Sydney of the 27th ult. state the prospect of the trade to be more promising. The demand for galvanised iron is fairly good, but prices are rather lower, the present quotation for 26 gauge being 22s., or a fall of 15s. A good business is reported in fencing wire at previous rates—14s. for No. 8 gauge. There is no alteration in bars, what little business is doing being carried through chiefly at 12s. for qualities equal to B. R. H.

**TIN.**—A moderate amount of business is doing in this metal, and prices are fairly steady. The slightly improved statistics for the month of April may have to some extent strengthened the tone, for although they show no very great reduction in the total stock, yet there is no increase, and it is very satisfactory to see the supply is kept limited, shipments from Straits amounting only to 100 tons, and from Australia 525 tons. The total deliveries last month in London and Holland were 1803 tons, against 1918 tons in March and 1719 tons in April, 1880. The total visible stock on the 30th ult. amounted to 14,299 tons, compared with 14,780 tons on March 31 and 13,401 tons on April 30, 1880. Another satisfactory feature is the further reduction which has been effected in the stocks in American ports, that including the quantity afloat amounting on the 30th ult. to 2940 tons, against 3294 tons on the 31st of the previous month, and 3785 tons on April 30, 1880. It is a very favourable sign to see the stocks on that market constantly being reduced, as, if continued, it indicates a repetition of orders from America, which would probably give great support to the market here, and possibly lead to the establishment of improved prices.

**LEAD.**—Business is quiet and much restricted, while prices continue at a very low range, which appears to have no beneficial influence whatever upon the demand. The export trade is particularly inanimate, but a limited number of enquiries only being received for any description.

**SPELTER.**—This market continues to be characterised by a quiet tone, buyers apparently limiting their orders only to immediate requirements. Prices are without material change, either for foreign or English.

**STEEL.**—A fair number of transactions are from time to time being carried, while prices are steadily maintained.

**TIN-PLATES.**—There is no material change to record; steadiness in both the demand and prices being the most prominent feature.

**QUICKSILVER.**—This market has quite lost the activity of the previous week. The price at San Francisco not having advanced in correspondence with the rise here, the export demand has fallen off; whilst some second-hand parcels have been offering at irregular prices.

The MINING SHARE MARKET has been quiet and rather dull this week; prices, generally speaking, have had a downward tendency, and our quotations are, for the most part, merely nominal. The chief demand has been for West Crebör at an advance. Prince of Wales, West Kitty, Roman Gravels, Wheal Crebör, East Blue Hills, Vans, West Frances, East Pool, Wheal Agar, Bassett, and a few few others.

**TIN.**—The tin market is decidedly firmer. Statistics, as they often do, would seem to justify the expectation of a rise in the standards for ore, which is just what the miner wants; but it is slow in coming, no advance having been made since Mar. 25. In the meantime the stocks of tin in London have decreased 459 tons. There is more doing in tin shares than in those for lead and copper. Still the business actually transacted is of small extent. Carn Brea, 22 to 23; Cook's Kitchen, 12 to 12½; Dolcoath, 56½ to 58½; East Lovell, 2 to 2½; East Pool, 38 to 40; at the meeting a good dividend is expected. North Penrith, 25s. to 30s.; Phoenix United, 3½ to 4; Polrose, 3 to 1; South Condurrow, 9 to 9½; South Frances, 10½ to 11; Tincroft, 18 to 19; West Basset, 14 to 14½.

West Frances, 11½ to 12½; West Kitty, 3½ to 4½; West Peevor, 15½ to 16½; West Phoenix, 1½ to 1½; Wheal Basset, 6 to 6½; Wheal Grenville, 8 to 8½; Wheal Jane, 8 to 8½; Wheal Peevor, 17½ to 18½; Wheal Uny, 2 to 2½; South Crofty, 9 to 9½; the accounts here showed a loss of 9677. on three months' working, and a debit of 35407. A call of 10s. per share was made. Wheal Kitty (St. Agnes), 2 to 2½; at the meeting the accounts showed a loss on four months of 1447. and a debit balance of 1297.; the costs being 22087.; tin sold, 40 tons, 2131. At Peden-an-drea meeting a call of 6s. per share was made. Wheal Agar, 11½ to 12; this mine has advanced lately from 5 to its present price, and among practical agents it is considered the mine will take a very prominent position, the rich lode of East Pool dipping into it. Since the meeting tin to the value of 5000. has been sold. Blue Hills, 3½ to 3½; at the meeting a dividend of 2s. per share was declared, and a good report read. East Blue Hills, 10s. to 15s.; New Kitty, 1½ to 1½; Polbreen, 1½; Wheal Coates, 1½ to 1½.

**COPPER.**—At the Cornish Ticketing, on Thursday, the standard for ore declined 10s. The average price of the ore sold was 37. 13s. 6d. per ton of 7½ per cent. ore. The share market has been rather quiet for copper mines. Bedford United are not so strong at 12 to 12½; Carnarvon Copper, 1 to 1½; Devon Great Consols, 11½ to 12½; East Caradon, 1 to 1½; East Crebör, 7s. 6d. to 10s.; Gunnislake (Clitters), 3½ to 4; Hington Down, 1 to 1½; Morfa Du, 3 to 1; New West Caradon, 8s. to 10s. Marke Valley, 1½ to 2; a call of 3s. per share was made at the meeting. A loss of 11357. was shown on the quarter's working. Wheal Crebör, 3½ to 4½; West Tolquis, 30 to 35; the sale here—130 tons—brought 5647. West Seton, 20 to 22; here 63 tons brought 3887.

Mellan, 4½ to 5; the sale of ore here realised 17177. for 618 tons. The directors have declared a dividend of 2s. 6d. per share, payable on the 14th, and state that good progress has been made in deepening the mine by sinking both of the engine-shafts, and the various levels that have been driving have continued to lay open good ore ground. Mona, 12 to 13; several tribute pitches have improved, and the returns of ore will be up to the estimate. The sinking of Cairn's shaft will be resumed at once. Devon Friendship, 1 to 1½; the work proceeds favourable. Sorbridge Copper are quoted 4 to 4½ prem., and we are informed the allotment letters will be posted at the beginning of the week. South Devon Consols, 1½ to 2½; New Cook's Kitchen, 6 to 6½; Faryn Copper, 15s. to 17s. 6d.; Prince of

dend guaranteed to the vendors will be payable at the offices of the company on and after the 25th inst.

Drake Walls United Mines shares have changed hands at a premium before the closing of the list on Monday next. It is understood that the applications for shares, received both in London and Glasgow, are very large. This is not to be wondered at, seeing that such well-known, rich, and valuable property is brought before the public on what are universally regarded as easy terms, and bids fair to become at no distant period one of the best dividend properties in Cornwall.

The United Shepherds Wheal Rose, with a capital of 100,000*l.*, in shares of 1*l.* each, has been formed to purchase for 35,000*l.* (of which 10,000*l.* will be taken in fully-paid shares and the remainder in cash) four mines—Wheal Anna, East Wheal Anna, Engelly, and Wheal Albert—in "the richest silver-lead mining district in Cornwall." A highly encouraging report upon the property has been made by Mr. C. Spencer Rolfe, C.E., of Westminster Chambers, who states that from the natural configuration of the surface, from the favourable underlie of the lodes, from the character, and from the faults which have raised them to favourable positions, that this group of mines offer facilities for economy of working far superior to any other mines in the district. In addition to this it will be seen that the more expensive portion of the work involved in their development has already been carried out. The deep adit alone has been estimated to have cost no less than 10,000*l.* In the high lying ground of Wheal Albert water is plentiful for dressing purposes, whilst good roads surround and traverse the sett, whilst the East Rose section of the Cornwall Mineral Railway will pass directly through the property. In concluding an elaborate report, he says:—"Finally, I would again state my conviction that these mines will prove exceptionally remunerative in every way if worked with due attention to their special requirements, and with the avoidance of those errors so common in the Cornish system of metal mining, and which, I unhesitatingly repeat, have caused the failure of many promising mines." The property has also been carefully inspected and reported upon by the following mining engineers:—Robert Symons, M.E., and mineral surveyor, of Truro; Capt. Stephen Richards, of Perranzabuloe; Capt. Charles Oates, of Calstock; and William Tamlyn, manager of the Winford iron ore and ochre mines; all practical men of great experience. The prospectus will be found in another column.

The South Polgooth Consols, to the formation of which with a capital of 65,000*l.* in shares of 1*l.* each, reference was made in last week's Journal, have received a very gratifying certificate from Messrs. Daubuz and Co., of the Carvedras Tin Smelting Works. They say:—"We have pleasure in stating that the parcels of black tin purchased by us from the South Polgooth Consols Mine during the last six months have realised more than the average market price of the day, owing to the good quality and high produce of the tin." The following telegrams have been received during the week from the manager of the mine:—"May 3.—A new lode cut; quite full of tin not seen before; splendidly rich." "May 5.—Lode recently struck has greatly improved to-day; have been hauling nearly solid tin stuff; never saw such rich work here."

Devon Great Consols, 12 to 12½*l.*; the half-yearly meeting of shareholders will be held about the end of this month, when a full report will as usual be laid before the shareholders.

Devon Great United, 2 to 2½*l.*; and have been in demand. There are good prospects of meeting soon with some important discoveries of ores.

Kit Hill Great Consols, 1 to 1½*l.*; and in demand. The statutory meeting is called for Wednesday next.

South Devon United, 2½ to 2½*l.*; and more business doing in them. The report will be found in another column.

South Wheal Frances, 10½ to 11½*l.*; and the mines reported to have improved.

West Godolphin, 1½ to 2*l.*; preparatory work goes on satisfactorily. The pumping machinery for draining below the 10 is being put down rapidly, and the agent expects in a day or two to advise that the water is forked to the 20. All surface work progresses steadily and well.

West Kitty, 4½ to 4½*l.*; this mine has been inspected for a shareholder. The report states that the various points of operation continue to show improvement, more especially the rise at the back of the 60 and the 60 end going east, each point being valued at 40*l.* per fathom.

West Lisburne, 1½ to 1½*l.*; it will be a source of satisfaction to the shareholders to know that this company have acquired an extension of their sett, embracing valuable water rights, and giving an additional area of about 400 acres, with a long stretch longitudinally on the course of the lodes.

Sentein, 30s. to 35s.; large purchases of these shares are reported. The success that has already been achieved under the past management is considered to warrant the belief that under the new supervision of Messrs. John Taylor and Sons the property will shortly stand on a par with the most successful mining undertakings to which they are managers (such as the Cape Copper, Fortuna, &c.), as the discoveries of mineral made at the Sentein Mine are on such a scale of magnitude as to justify the expectation of regular monthly returns of not less than 1000 tons of silver-lead and blende.

The Akankoo (Gold Coast) Mining Company have received a telegram from Axim (West Coast of Africa), via Madeira, announcing the arrival of the expedition appointed by the board to examine and report upon the property; all well. The report on the investigations of the expedition may be expected within a very few weeks.

Richmond, 17 to 17½*l.*; the usual telegram from the mines at Eureka, Nevada, states that the week's run was \$50,000, from 850 tons of ore. During the week the refinery produced doré bars to the value of \$45,000. The manager (April 7) reports that the winze sinking below drift from Lizette Tunnel cross-cut has been sunk 12 ft.; now down a total depth of 30 ft., in favourable ground. The 250 north from cave has been advanced 19 ft., in favourable ground. Good progress is being made in cutting out station for engine in the 900 north-west drift preparatory to the sinking of deep incline. There is no change to mention in any of the chambers; they are looking well, and turning out the usual amount of good grade ore. The decision of the Supreme Court of the United States was on the point of being given at the date of the last advices to hand from Nevada, so that it may be anticipated that the result will be known in the course of next week. The Richmond-Albion suit, according to the Eureka Sentinel, is not making much headway. It now appears, continues the same authority, "that there are no less than three injunction cases pending between the two companies. By consent of counsel all are to be merged in the one case, which is set for next Monday. One of the three is an injunction against the St. George claim of the Richmond. In this instance the Albion seems to have assumed the aggressive. The Albion people say that they will follow up this injunction with a suit for damage against the Richmond, claiming that all ore extracted from the St. George properly belonged to the Albion. The plot thickens and the litigation grows daily more complicated." It must be admitted, however, that these matters less serious in America than in this country, so that no special importance need be attached to these disputes.

Ruby and Dunderberg, 8½ to 9*l.*; the week's report and telegram from the company's superintendent are considered to indicate considerable progress. The 500 and 600 in the Dunderberg Mine are probably connected by this time, which will largely increase the output, and amply supply the second furnace. In the 300 ft. drift to the Home Ticket lode the ground is hard, which is a good indication of the close proximity of ore in this mine. At the Bullwhacker a new seam of ore had been encountered, and the work of development is progressing well.

Flagstaff District shares are reported to be in improving demand. The proceedings at the statutory meeting, on Tuesday, were highly satisfactory. Prof. Vincent (the Chairman) gave an interesting statement as to the character and condition of the mine, and pointed out that the continuance of the great vein in both depth and horizontal extent was—apart from achievements with the mine itself—assured by the results of adjoining workings (at both ends of the property), but especially by those hitherto obtained, and now being derived from the Alta Consolidated Mine, immediately contiguous to the Flagstaff District property on the south-east. The request of the board (in which a number of the largest shareholders had already joined) that Prof. Vincent should go to the mine and organise operations there in person was heartily concurred in by the meeting; and no doubt can be entertained that if this suggestion can be carried into practice no more important step could be adopted.

Eureka (Nevada) Silver, 1½ to 1½*l.*; one of the directors has lately paid a visit to the Eureka district, and it is stated that his report, which is of a favourable nature, will be published in the course of next week.

Eberhardt, ½ to 1*l.*; Intelligence of a highly favourable character, which was foreshadowed in Capt. Drake's last report, is confidentially expected at an early date. A correspondent writes: "Shareholders should be very cautious in parting from their holding during the next few weeks, as any day now may witness the news of a discovery of great importance. These remarks apply as well to the shares of the Consolidated Company, now quoted at 5½ to 7½*l.*"

Colorado United, 2½ to 2½*l.*; Mr. Hamill still maintains the dignified silence forced upon him when he undertook the management by the unkind remarks of adverse operators, and the shareholders know

consequently, very little of the great improvement in their property. It is, however, well known in Colorado how much has been done by the present captain, and it is expected that large returns will, ere long, be paid to the patient shareholders.

The prospectus of the Red Mountain Mines has been issued, with a capital of 6000*l.*, 3500*l.* of which is retained as working capital. The vendor takes 1000*l.* in cash and 1500*l.* in shares for 14 mining properties in Colorado. The enterprise is referred to as a fair venture.

Nouveau Monde, 1½ to 1½*l.*; these shares have been dull, owing to the non-receipt of news from the mines. In well informed circles, however, it is stated that Mr. Anthony is actively employed at the mines, and that shortly a large sum will be devolved among the shareholders from the expected sale of surplus property.

Michipicoten, 1½ to 1½*l.* the staff of men have arrived safely at Montreal on their way to the mines. A further portion of machinery has this week been shipped by the Allan Line steamer, which left Liverpool on Thursday.

In Lead Mine shares there has been comparatively little doing, the chief dealings having been in Van, probably owing to the rapid drop they have experienced; they close 7½ to 8*l.* and business has been done during the day at the higher price. A rich discovery is reported from Cardiganshire. A fine lode has been cut at surface at a place called Penrhyn Gerwen containing good lead with a little copper for over 5 ft. wide, within a few fathoms of surface. The place has been visited by several mining experts, who all agree that it is one of the finest lodes seen at surface in this country.

Roman Gravels Mine shares have been in great demand all the week, and leave off with good buyers at about 13*l.* to 14*l.* A report of the annual general meeting of shareholders will be read with interest both by the shareholders and the general public mining investors. Mr. Peter Watson, one of the three gentlemen who bought this property some 11 years ago, and who moreover is a large shareholder, was unanimously elected a director of the company. There is considered to be no doubt that this is one of the best if not the richest mine in this country, and with enormous reserves of ores.

At Minera the levels throughout the mines are yielding more blends than the monthly returns, being about 100 tons of lead ore and 350 tons of blends. At Pant-y-Mwyn increased returns of lead ore will now, it is hoped, be made, the deep level having unwatered most of the rich sumps. British Silver-Lead will, it is thought, when the dressing machinery is erected yield good profits for many years, there being an almost unlimited supply of ore.

**GOLD AND SILVER.**—Messrs. PIXLEY and ABELL: The arrivals of gold during the week have been sent into the Bank, the amount so disposed of being 24,000*l.* The demand for export has almost ceased, the only shipments being 20,000*l.* per P. & O. steamer to Bombay, and 37,500*l.* to Malta. We have received since our last, 8000*l.* from Melbourne, 3170*l.* from Brazil, 59,000*l.* from New Zealand; total 70,170*l.* The price of silver has gradually declined during the week. The silver per West India steamer was sold, on the 29th ult., at 52*l.* the rate then went to 51½*l.* on the 30th, and 51½*l.* on 3rd inst., at which the silver, ex Plata and Galicia, was sold. The arrivals since our last have been 40,850*l.* from River Plate, 62,000*l.* from New York, 26,000*l.* from Paris; total 128,850*l.* The Nile has taken 5530*l.* to the West Indies, and the Rohilla 60,000*l.* to Bombay.

**IRON AND COPPER.**—Messrs. FRENCH and SMITH (May 5) write:—The magnitude of present production and the inadequate demand are causing anxiety, and the views we expressed in January last now receive general acceptance. Reports from America speak of a large consumptive demand, but their own output is quite equal to it. Not until low prices cause a serious curtailment of production there, can we expect relief from that quarter. Fluctuations in price of warrants have been small during the past month, and the bulk of the stock is still tightly held in the hopes of better times. Manufactured is in slow demand. The announcement of heavy charters of copper for first fortnight of April dissipated all hopes of improved statistics, and this, coupled with low prices ruling at Valparaiso, discouraged holders here. The market closes depressed at 57½, 15*l.* for Chili Bars. Rumoured shipments of Lake Superior Copper to Europe further tend to unsettle the market.

**STOCK EXCHANGE SETTLEMENTS.**—The committee have fixed Thursday as a special settling day in the following securities, all of which are to be marked:—Loan and Mortgage Company of Egypt Five per Cent. Debentures; Australian Mortgage Land and Finance Company (Limited) Four per Cent. Debenture Stock; Santa Cruz Sulphur and Copper Company (Limited) shares; Oregum Gold Mining Company of India (Limited) shares; Tambracherry Estates, and Wynnaid Gold Mining Company (Limited) shares; Colar Gold Mining Company (Limited) shares; The Royal Gold Mining Company (Limited) to be marked.

**SORTRIDGE COPPER MINING COMPANY.**—We are informed that the allotment letters will be posted on Monday or Tuesday. In another column will be found a report on this valuable property, by Capt. George Rowe (of Wheal Crebor), in which he states that "there cannot be any reasonable doubt, judging from its appearance, that this new discovery to the west of the cross-course will be found equal to, or far exceed, the former discoveries. In all probability it will lead to a very great discovery of rich quality copper ore, going west into new ground." In another report, by Capt. R. C. Seccombe, it will be seen that he speaks of this splendid lode as embedded in a very congenial formation of clay slate, and in entire virgin ground for over 300 fathoms in length. But there are at least six lodes discovered, and besides the fine copper lode above referred to there is an immense tin lode, which from very partial workings has yielded a considerable quantity of rich ore. It is the opinion of the best practical men that Sortridge will quickly become as important a tin as a copper mine, and that it will hold a position for profitable returns second to no other mine in the Tavistock district. Indeed, one of the most eminent of the mine agents who have lately examined the property has stated that he is confident that within the next 12 months such wonderful discoveries will be made that great excitement will prevail in the locality, equal at least to what occurred when the rich lode was first cut at Devon Great Consols in 1844. The appearances of the lode at that well known mine in that year were very similar to what are now to be seen at Sortridge—a large mass of gossan intermixed with rich copper ore, and at only 17 fms. deep they came upon an immensely rich course of ore, which led to profits divided among the shareholders to the aggregate amount of nearly 1,250,000*l.*, upon a capital of but 1000*l.* of which only 200*l.* had been expended! The great productiveness of the Sortridge lode under the gossan has already been proved to the east of the cross-course, and now for the first time it has been found to the west, where a shaft will at once be rapidly sunk upon it, and in no time a discovery may be announced that will startle even those accustomed to the grandest prizes in mining. It is also intended to clear the deep adit, and drive cross-cuts to all the lodes which can thus quickly and cheaply be intersected and worked at a considerable depth. The expenditure of little more than 1000*l.* in a few months of time will probably accomplish all this, so it is not to be wondered at that the shares are quoted at a premium, and that many of the most influential mining investors are large holders. It has not been forgotten that the shares of this mine, under circumstances less favourable than now exist, were formerly dealt in extensively at very high prices. There is an impression that in this case history will more than repeat itself. The company is in 40,000 shares, of 1*l.* each, and the office at 8, Austin Friars, E.C.

**PERKINS BEACH LEAD MINE.**—The company about to be brought forward for the working of this fine property there is little doubt will be the success of the season, and rightly too, it being in all probability the richest lead mining sett, and the most extensive, in what is well known to be the richest lead district in the United Kingdom. With the fine old Snailbeach on one side and Tankerville Great Consols on the other, to say nothing of Roman Gravels, Perkins Beach, even if improved, would rank as one of the most wealthy sets in the districts. But Perkins Beach has been proved to be literally traversed throughout its extreme length by no less than 15 magnificent lodes or veins, any one of which could, if worked with sufficient capital, and in a miner-like manner, be a fortune to the adventurers. Some years ago, probably in the memory of many of the *Miners' Journal* readers, a lode was cut in the upper level close to grass that was the wonder of the district, and enormous quantities of ore were got to surface. The present proprietors appear to have driven a level at a depth of 70 fms. to cut this lode, and they ought when the company takes over the property to be within 7 fms. of opening it. The moment this is effected every known vein in the

district, rich as most of them are, will, in comparison, fade into insignificance. What Perkins' Beach requires is depth, depth, depth. And this cannot be insisted on too much, or forced on the attention of the new management too often. Go deep enough in Perkins' Beach, and there are millions in it. One excellent feature in the new enterprise is, that not only will it be governed by one of the strongest boards of directors that ever looked after a company's interests, but we hear it whispered about that the management will be in the hands of a gentleman known to carry through successfully any enterprise he may undertake, and who adds to great practical knowledge that amount of energy which goes a long way to command success.

**EAST ROMAN GRAVELS.**—The 86 end is worth 1 ton of lead ore per fathom, and the stope 5½ tons. The monthly sale this week was 40 tons of lead ore for 37*l.* Several boring machines are to be tried, and the best one permanently adopted.

**TANKERVILLE GREAT CONSOLS.**—There is a fine lode of lead ore in the 220 level. The drainage of Bog and Pennerley shafts are progressing favourably, and when completed (in a very short time) the returns will be considerably increased. This week 70 tons of lead ore were sold from Tankerville part of the property for 63*l.*

#### CAPPER PASS AND SON, BRISTOL, ARE BUYERS OF

LEAD ASHES SULPHATE OF LEAD, LEAD SLAGS,  
ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c  
and DROSS or ORES containing  
COPPER, LEAD, AND ANTIMONY.

#### GEO. G. BLACKWELL, 26, CHAPEL STREET, LIVERPOOL, HANDLES ON PURCHASE OR SALE

MANGANESE, ARSENIC, FLUOR-SPAR, WOLFRAM, BLEND, CALAMINE, CARBONATE and SULPHATE of BARYTES, ANTIMONY ORE, CHROME ORE, MAGNESITE, EMERY STONE, PUMICE STONE, OCHRES and UMBERS, CHINA CLAY, LEAD ORE FOR POTTERS, TALC, PHOSPHATE OF LIME, &c. Also, ORES CONTAINING LEAD, ZINC, AND SILVER, IN COMBINATION.

**EKINS AND CO.,**  
SHAREDEALERS,  
14, QUEEN VICTORIA  
STREET, LONDON, E.C.  
The SPECIAL CIRCULAR issued this day contains information of the greatest importance concerning companies recently placed before the public. We recommend the purchase of SILVER HILL Shares at 1½*l.* and application for shares in WEST WHEAL ROSE—24*l.* on application, 3*l.* on allotment, and calls of 5*l.* as required, at intervals of not less than three months. All investors should read it. Post free on application.

**MR W TREGEELLAS, 40, BISHOPSGATE STREET WITHIN, E.C.**  
Deals in all descriptions of STOCKS and SHARES at close market prices, and is always in a position to do business in SANTA BARBARA, PITANGUI, and BRAZILIAN GOLD MINES.

**MR. W. MARLBOROUGH, STOCK AND SHARE DEALER, 29, BISHOPSGATE STREET, LONDON, E.C.**  
Can SELL the following SHARES at prices annexed:—

	25	25	25	25
Bedford Unit.				
20 Brazilian Gold.				
25 Bwlch United.				
40 Carn Camborne.				
50 Carnarvon.				
50 Callao Bis.				
25 Deva Moyer.				
25 Devon Con.				
25 Don Pedro Gold.				
25 East				

## MINING AS A BUSINESS.

Points to be Considered by English Capitalists, as Regards American and other Mining Investments.

Anyone who thinks of putting money into Mining can, by writing to me, have sent, post free to his address, a CIRCULAR, which will give him Valuable Points of Financial Utility, and Practical Views regarding Mining Investments generally, considered from a business standpoint.

J. J. WEST, 245, WABASH AVENUE, CHICAGO, U.S.

## Notices to Correspondents.

TANKERVILLE—"W. P. S." (Sheffield).—The quotation is, as you assume, a clerical error; the premium has been marked as the price. From 12s. 6d. to 17s. 6d. are the prices at which business was reported.

CORNWALL GREAT CONSOLS—"Enquirer" (Ardwick).—Nothing has been heard of the concern since the date mentioned. The firm referred to is no longer known, letters addressed to them being returned through the dead letter office.

SHARE DEALING—"C. S." (Cheetham Hill).—If you "have sold the shares at a premium previous to the settlement, and if no settlement be granted," the purchase would not have to take the shares, and you would, no doubt, be saddled with them and the liability upon them. In everything except share dealing, capitalists and the public recognise the necessity for at least some preliminary knowledge as an essential to success.

Received.—"G. B. H." (Las Vegas, New Mexico)—"H. W. H." (Holloway)—"C. H. W." (Serra de Coeas)—"R. W. M."—"J. W." (Nottingham) had better refer to our file of about the date he names—"Old Reader" (Boston)—"Nemo" (Richmond)—"N. R." (York)—"Shareholder" (Wheaton Creber)—"Shareholder" (Chontales)—"W. B." (Denver)—"J. J. S."—"H. D. H." (Barcelona)—"Shareholder" (East Wheat Rose)—"Shareholder" (Great Polgoon)—"An Old Subscriber" (Widnes).—We could not publish such a letter without the writer's name being appended. An interview with the surveyor, or director, would no doubt tend to explain some of the matters of which our correspondent fancied he has cause to complain.—"Eureka" —Next week.

\* \* \* THE IRON AND STEEL INSTITUTE.—We are compelled to postpone until next week's Journal the publication of our report of the proceedings at the meetings, held during the past week, of this Institute. The matters introduced were of great interest, but our space being so fully occupied, we are compelled to defer our report.

THE MINING JOURNAL,  
Railway and Commercial Gazette.

LONDON, MAY 7, 1881.

SALT MINES IN THE NORTH OF ENGLAND.  
THE NEW CLEVELAND INDUSTRY.

The sinking to the vast salt deposits in the North of England which is about to take place is of far greater national importance than the public are aware of, for the question of the exhaustion of our present sources of supply has not even been mooted; yet to those at all acquainted with the subject it is well known that the subsidence now going on in Cheshire and Worcestershire threatens to decrease the production most seriously, and before many years to stop it altogether. At the same time our requirements, more especially for manufacturing purposes, get larger every day. Our present salt districts are situated at a lower elevation above sea level than ordinary mineral districts, and the brine runs extend miles away from the pits, so that landslips take place in all directions, sometimes taking place where there are houses or other buildings, as well as where there are railways or ordinary turnpike roads. Some of these are caused by the solution of the rock-salt into brine, and others from the falling in of old rock-salt pits. The damage done by the giving way of the pits is not so serious as that from the brine, which has been in active operation in both Cheshire and Worcestershire for ages. One of the results has been that considerable areas are now covered with water that at one time were fields and hedges. In some parts of Cheshire also buildings have disappeared, or have merely left the tops of them discernible; and we have it on the highest authority that in Worcestershire, the town of Droitwich, the railway and neighbourhood for several years past have been going down rapidly. The brine pits at Droitwich are in the town, and one of the main runs has been tearing up the ground in its course. Some of the landslips in Cheshire are really alarming, and the canal near one of them has sunk nearly 12 ft., the Wansford Docks have gone down about as much, whilst in the intermediate parts, in the valley of the Weaver, the whole is being submerged. Indeed it would appear where the brine pits are being worked the land becomes submerged, threatening whole towns and villages. The rock-salt districts are also situated at a level interfering with the surface drainage, so leading to a great deal of damage. From these well-authenticated facts it will be seen that there is every probability of our present sources of salt supply being greatly interfered with, and the importance of having new fields to open out, so as to meet the increasing demand, for the consumption has vastly increased since salt has been used for agricultural purposes, iron smelting and manufacturing, and since it was substituted for seaweed in the manufacture of soda. Brine pits have been worked, it may be said, for several hundreds of years, but the discovery of rock-salt is of far more recent date, for it appears to have been first met with in 1670, in Cheshire, whilst a search was being made for coal, and in the Cleveland district, where the new mines are about to be sunk, the rock-salt was discovered in 1863 by means of a bore-hole that was being put down by Messrs. Bolckow and Vaughan for fresh water at Middlesbrough, the depth from the surface being 463 yards. The rock-salt, as in all districts, no matter where, is found in connection with the new red sandstone. In Cheshire and Worcestershire the gypseous and saliferous marl, shales, and clays of the trias are between 1000 and 1500 ft. in thickness, containing in many places large deposits of rock-salt, and these are truly said to be the wonders of geology. The salt, however, is not universally distributed, but seems to occupy limited areas in certain districts. The origin of these vast subterranean deposits of salt is as difficult to account for as the saltiness of the sea itself. It may, however, be said that deposits of salt are always accompanied with layers and intersections of gypsum, and the circumstance of two acids being largely and uniformly present seems to indicate a common origin. Mr. W. H. Peacock, mining engineer, who took a great interest in the Middlesbrough boring, and some other geologists, identify the strata above the rock-salt at Middlesbrough with the Keuper formation, which is the upper portion of the triassic, and consequently the rock-salt of Middlesbrough is found in the same position as that in Cheshire, although this appears rather singular, seeing that there is a great deal of difference in the thickness. Be that as it may the value of the salt deposits in the Middlesbrough district cannot be overestimated. Only lately indeed Mr. Peacock informed us that there was every reason to believe that Middlesbrough will become the most important salt-producing centre in the kingdom. The salt was about 40 ft. in thickness, pure as crystal, and in all probability extended over a wide area.

On the Tyne where large chemical works requiring vast quantities of salt, or where it was the principal factor in the articles manufactured, the carriage from Middlesbrough to the Tyne would be comparatively trifling to what it is now from the Cheshire salt districts, so that the new districts cannot fail to be successful. With such a vast amount of the raw material for several chemical products so close at hand, not only will a great stimulus be given to the works now in operation on the Tyne, but we may not unreasonably expect to find new ones established as well. At the present time we import, more especially from Germany, a vast amount of chemicals, of which salt forms the basis, and there is no reason that with abundance of salt at a comparatively low price why these should not be produced at home. In the manufacture of potash the primary substance is leach brine, called refuse salts, or variegated bittersalts, in Germany forms the roof of the deposits of rock salt, owing their

origin to a natural process, while some manufacturers used to prefer the leach brine of salt works. The chief constituents of waste salt are carnelite and kieserite, found in alternate layers in the rock salt, more or less pure. It is about 20 years ago since the refuse salts were first worked in Prussian mines. The first manufactory was established in 1861, when the refuse salts were treated for chloride of potassium, potash manures, &c. There are now, however, about 40 works engaged in utilising the waste salts for the products named. The greater part of the chloride of potash is prepared for converting into saltpetre, sulphate of potash, potash alum, &c. Considerable improvements may be said to have taken place in the manufacture of potash owing to the increased demand there has been for it, more especially in separating the different compounds which are met with in waste salts. Sulphate of soda (Glauber's salts) are also largely produced in Germany, crystallised and calcined, and is obtained by doubled decomposition, at a low temperature, of sulphate of magnesium and salt.

The purposes to which salt can be profitably adopted are numerous, and they only require an incentive to be produced to a very large extent in this country, and that incentive we consider will be found in the opening out of mines in such places as Middlesbrough, where there are all the essentials for cheap production. On the Tyne indeed the consumption of salt is large, and will be more so when it can be delivered cheaper than at the present time. Some of the works are on a most extensive scale. The Felling Chemical Works, for instance, produce about 15,000 tons of soda ash and 7000 tons of bleaching powder yearly. In addition there is produced refined alkali, soda crystals, and bi-carbonate of soda. The Newcastle Chemical Works compose an area of 137 acres, about 56 of which are covered with buildings. About 700 tons of soda ash are produced weekly, which requires the decomposition of nearly 1000 tons of common salt, which of course has to be brought from a considerable distance, and at considerable cost for railway carriage alone. Having the salt so close at hand as Middlesbrough there would be a marked saving, indeed, in carriage alone, and no doubt there would be a greatly increased consumption in consequence of the difference in the price. The chemicals produced at the works are upwards of 50,000 tons a year. With works so situated there would be such a demand for the Middlesbrough salt, that for many years to come it would be entirely absorbed by them. The development of the vast stores of salt that are now known to cover a considerable area in the North of England, it is to be hoped, will be carried on with the utmost expedition, for we feel assured that the new industry about to be introduced into Cleveland will be a most successful one.

## IRON MINERALS.

One of the "most remarkable men of this country"—to use a phrase rendered famous, or notorious, some 38 years since by the brilliant, although somewhat sensational and excitable, CHARLES DICKENS—is undoubtedly Mr. SYDNEY GILCHRIST THOMAS. He is still only 30 years of age, and his marvellous scientific and financial success is said to have only stimulated his energies and ambition for the prosecution of still greater undertakings. Although his appearance is still so youthful that at a dinner given to him in New York one of the speakers referred to him as "that inspired boy," the royalties from his patents must be producing him the revenues of a prince. He, however, shows no inclination to settle down into an inglorious, although perhaps a luxurious, inaction. He is indeed a man of whom it may be said—

"Nil actuam putat dum quid supererset agendum."

This is all the more creditable since Mr. THOMAS has already become a second Sir H. BESSEMER in the matter of wealth, the Bessemer Steel Association of the United States—an organization composed of eleven American companies devoted to the manufacture of steel rails, having alone paid 55,000 for the "Thomas" patents for dephosphorizing iron. It may appear at first sight that the American Bessemer Steel Association has paid rather dearly for its whistle; but it should be remembered that the Sydney Gilchrist Thomas process will enable American makers of Bessemer steel to use more advantageously American iron ores in manufacturing pig to be converted into steel. It was only a few weeks since that contracts were let for the delivery of 600,000 tons of Mokta-el-Hadid (Algerian) ironstone to the United States. With the help, however, of the Sydney Gilchrist Thomas process Americans may be enabled to use their own ironstone to a greater extent than hitherto; so that it is not too much to say of the "inspired boy" that in one respect at least he may influence the commerce of the world.

The change, however, will probably be gradual. Indeed at present the demand for Spanish and Algerian minerals is more active than it ever was at any former period. Thus we have just observed that contracts for the delivery of 600,000 tons of Mokta-el-Hadid iron minerals to the United States have been recently concluded. Well, in 1879 the whole production of these somewhat celebrated mines only amounted to 402,000 tons; and last year to 552,000 tons. With contracts on hand for the delivery of 600,000 tons to the United States alone the Mokta-el-Hadid mines will probably exhibit a further advance in 1881. In the Bilbao district, in the North of Spain, the production of ironstone has also been making rapid strides, the extraction having risen from 1,117,836 tons in 1879 to 2,345,595 tons in 1880, and 2,500,000 tons in 1881 (estimated). Of course a great deal depends upon the course of the iron trade during the next few months, or the next two or three years. If the iron trade shows in the autumn of this year the same remarkable activity which it exhibited in the autumn of 1879 the demand for Algerian, German, and Spanish minerals may prove very active in Great Britain and Europe, and may even extend into the New World to a still further extent than at present. But if, as appears likely to be the case, the iron trade eases off for a little during the remainder of this year, the demand for iron minerals will, of course, fall off.

## COLLIERY EXPLOSION IN NORTH STAFFORDSHIRE

On Tuesday morning an explosion took place at the Lillydale Colliery, North Staffordshire, by which at least six lives were lost. The accident, if so it may be called, was entirely different to those which usually take place from accumulations of gas in the working places or goaves, for water appears to have been a leading factor in the catastrophe. So far as can be gathered from what has already been made known, some 13 men were working in one of the seams driving to one of the dips, and as it was believed that some old workings were in the neighbourhood, and precautions were taken, we are told, to prevent accident. The precautions taken consisted of a bore-hole 9 ft. long, and 1 in. in diameter. This, we may say, is the usual course adopted in the first instance, but in conjunction with it other measures of safety are generally adopted. However, the water in some old workings were tapped, and forced the gas on to the naked lights carried by the men, an explosion being the result. It was only last week that we drew attention to the pumping of water from mines, and the prevention of water from entering the workings. As a rule, we may say that managers of mines should be acquainted with the abandoned workings near to their own. The first essential for that purpose is accurate surveying and mapping, a knowledge of the lithological character of the rock dividing the surface or underground water from the places of the mine being worked, and the carrying of exploring drifts in the districts underground where water may be expected, with bore-holes in advance. At the Lillydale Colliery the water once tapped forced its way in at such a rate that the exploring party were glad to escape, so that the water rushed in unchecked, and accumulated to such an extent that some weeks, we are told, will elapse before, under the most favourable circumstances, it can be pumped out. Leaving for the present the question of naked lights being used in exploring extensive workings where water was expected to be met with, we think that were the plans of all underground workings properly kept there would be nothing to fear from the water of abandoned mines. Where water was expected from an adjoining mine barriers of a certain thickness should be left. Where no reliable information from plans can be obtained with respect to old mine workings filled with water, the safest course is to have a couple of exploring drifts kept considerably in advance

of the main working places, and bore-holes kept 10 or 15 ft. in advance of the faces of the drifts.

In anticipation of meeting with water at Lillydale there was a bore-hole, but that might have been supplemented with still greater precautions so as to ensure the safety of the men, and prevent the ingress of the water from the old workings, and this we are told by a high authority can be easily effected. Where the water is to be kept in its place, and where its pressure is likely to be very great, because of the quantity and its vertical height above the place bored, all possible care and discretion is essential to safety, plugs of dried firs, slightly tapered, and about 5 to 6 ft. long, with a handle passing at right angles through the thick end of each to facilitate insertion ought to be in constant readiness, and a sufficient number of hands to put the plug in as soon as ever the water comes off, and the rods are withdrawn, as it is often a matter of considerable difficulty to drive a plug against the force of the water. Had this course been adopted the probability is that the water would have been kept out of the Lillydale Mine. But the men kept on boring, but what they expected to do when they tapped the water is not quite clear. Evidently no such precautions as these we have drawn attention to were thought of. As has often been the case before, the neglect of such precautions or the employment of inexperienced or unqualified men, has led to disastrous consequences in the loss of property as well as in the loss of life. To prevent accidents from inundations there must be accurate surveys accurately registered, a due and intelligent consideration of the character and properties of the rock separating the working places from the water, and careful boring in approaching any place where water may be suspected to rest. With such precautions as we have pointed out the inundation of a mine from old workings would be all but impossible. Colliery managers and those whom they appoint to take the supervision of borings where water is expected to be met with should be prepared with the necessary appliances to stop the hole when the water has been reached. This appears not to have been the case at Lillydale, for no precaution appears to have been taken to keep the water out after it had been tapped by the borer, when the moment of danger actually arrived. As to naked lights, it need scarcely be said that they are always a source of danger in mines, but more especially in advanced workings, but the men engaged in boring at Lillydale, and had taken no measures to plug the water when it was met with, were not likely to pay much consideration to the lights they used in such dangerous work. Responsibility rests somewhere, and this we suppose will only be made known at the enquiry which will take place when the bodies are recovered. When that enquiry is ended we may have something more to say upon the subject, seeing that it is one that of late we have drawn special attention to.

## DYNAMO-ELECTRIC MACHINES.

With the object of providing an improved body for the revolving armature of his machine patented in September, 1879, so as to provide for the cooling of the same and its magnets, and thereby ensure the coolness of the magnets of the whole machine, an ingenious arrangement has been suggested by Mr. William Elmore, of Blackfriars, who also provides a commutator of improved construction for facility of connection and avoiding the secretion of metallic dust in the section of the commutator under the brushes, so as to avoid short circuit between the sections, and also provide for the connecting up of the wires of the stationary or field magnets. The field magnets of dynamo machines have been cooled by water or air being circulated therethrough; but the revolving armature of such machines has not been so dealt with, and it is in this part of the machines that the heat is generated in working and communicated by radiation and contact to the remaining portion of the machine, the danger being such that if the driving engine happen to race the whole of the insulation of the wires of the machine may be burned away, and the machine become utterly disabled. In practice the armature, cylinder, boss or disc, and the magnet cores are made with a continuous internal chamber or hollow extending into the solid portions of the armature to form a passage way from an aperture on one side of the armature to another aperture on the other, so that a current or stream of water, air, or liquid refrigerating medium can be circulated throughout the parts through the main shaft of the machinery. For this purpose the main shaft is bored out longitudinally and centrally from each side, but not so as to communicate therethrough, but to form a tubular conduit through the ends of the shafts, and at the inner extremities of such boring and transversely of the shaft secondary borings are made so far through the shaft as to meet the central borings at right angles, into which secondary borings short lengths of tube are, therefore, fitted to connect with the outlets of the armature circulating chamber. The outer ends of the shaft are furnished with a stuffing box, through which is passed a conduit tube corresponding with the central borings of the shaft, the said conduit tube being carried in end bearings or supports from the framing or bed plate of the machine. Thus a head or supply of water, air, or fluid cooling medium can be supplied to one of the conduit tubes at one end of the shaft of the machine, and flow through the central boring of the shaft to the aperture on one side of the armature chamber, and through the said chamber out by the opposite aperture to the other central boring of the shaft, and thence be led off by the conduit tube passing through the stuffing box at the other end of the shaft, whereby a continual flow can be kept up through the armature during its revolution to ensure the effectual cooling thereof. The magnets are preferably cast with the body of the armature, cylinder, boss, or disc, or may be bolted thereon, and the said body is in two halves, with the corresponding portions of the chamber or passage provided therein, and when put together is fitted with a dividing plate, through which is made a perforation at one part to complete the continuous chamber for the circulation there through of the cooling medium, and the divided portions of the armature are bolted together, or may be brazed and bolted.

For the improved commutator there is placed upon one end of the main shaft of the machine a metal barrel piece insulated from the shaft, and having and running in an insulated bearing in the centre boss of the stationary magnet standard, and the barrel piece carries on the inner end thereof on the inner side of the stationary magnet standard terminals, to which are led and attached the ends of one-half of the number of the wires of the magnets of the armature, and the outer end of said barrel piece is provided with an interior screw thread to engage with a corresponding thread formed upon one-half of the sections of the commutator, said half of the sections being mounted upon a thimble and flange of insulating material, and held away from the shaft and divided from the remaining half of the sections of the commutator, a left-handed screw thread upon the shaft receiving a nut against which the insulating flange and thimble bears, and is held by a second locking nut. The sections of the commutator that are not in contact with the barrel piece are in contact with the shaft which is in contact with the other half of the wires of the armature magnets. The sections of the commutator in contact with the barrel piece are, as before stated, held away from the shaft, and channels or recesses are thus formed which correspond with outer openings, or a series of inlets for air at the end of the commutator, so that as the shaft revolves air enters by these outer openings into the recesses of the commutator and blows out at the divisions of the sections thereof, thereby clearing and blowing away any metallic dust produced by the brush action upon the commutator, and tending to cool it.

It has hitherto been the custom to take the wires from the pairs of magnets and either twist them together in cable form or bring other separate wires or cables up to them from the terminal and brush to form the main circuit, thereby allowing of considerable liability to imperfect contact, and being otherwise inconvenient by reason of the wires carried along the shaft becoming damaged or displaced in course of revolution; therefore, and to do away with these connections, there is employed a pair of main connectors upon each upright standard, described in the patent before referred to, one of the said main connectors from the brush and the other from one of the terminals of the machine, the ends of one-half of the wires of the stationary magnets being carried to each of the connectors, so that by these connectors the terminals are in fact brought solidly to the wires

instead of the wires to the terminals, the said connectors being in form of a metal band encircling the boss of the main standards of the machine, and carrying terminal holes and binding screws for the wires of the magnet pairs and connecting from the said encircling metal band directly to the terminals of the machine by a substantial single metal piece.

**THE EMPLOYERS' LIABILITY BILL.**—That the Employers' Liability Bill would not prove the disastrous measure that so many mine owners and others anticipated we pointed out before it came into operation, and our remarks have been fully borne out by what has taken place during the first four months after the Act came into force. Great efforts were made in Lancashire in particular by employers to contract themselves outside of the Act, which was strongly opposed by the men, who considered that the masters by their action were working solely to their own interests. Now that time has been given for reflection the workmen in many districts have considered it to their advantage to join their employers in forming an association giving the ordinary insurance benefits. As yet but few cases have been taken into our courts for compensation under the Act, whilst thousands of workmen have agreed to contract themselves out of its provisions, believing that in so doing they were adopting the wisest course. A proof of this was shown at a conference of ironworkers in the Midland Counties, held at Wednesbury on Monday last, for the purpose of considering an insurance scheme in lieu of taking advantage of the Employers' Liability Act. The insurance scheme was evidently considered preferable to the risk of the law. The iron-masters offered to contribute 25 per cent. of the amount subscribed by the workmen, and pay the medical expenses for disablement. Some of the delegates considered that the employers should pay an equal sum with the men, and the conference was adjourned for the purpose of taking the opinion of the entire body of workmen on the point. The disposition shown was of a most amicable character, and there is no doubt an arrangement of a satisfactory nature will be come to. In some of our largest mining districts the men have voluntarily agreed to the insurance principle, which we believe will be found to be the best for the employees, for they will be supported in most instances in case of sickness, for which no provision is made in any Act of Parliament, but for which employers in our mining districts in particular for long years past have subscribed most liberally. The action taken by the workmen in accepting insurance in preference to litigation in case of accidents shows a friendly disposition, which will not be lost upon those whom they serve, but will be a tie that will bind stronger than ever the interests of masters and workmen, which are identical for all beneficial purposes.

**COLLIERS' WAGES.**—Representation having been recently made to Mr. Dickinson, Chief Inspector of Mines, that the colliers in certain collieries near Manchester, whose wages depend upon the amount of coal gotten, desire to be paid by the weight instead of the measure, as provided for in the Coal Mines Act, he has taken a ballot with the view of ascertaining the opinion of the majority, with the following result: Spindelpoint Colliery, for weight, 127; measure, 107. Manor Colliery, for weight, 102; measure, 83. Pendleton Colliery, for weight, 63; measure, 38.

**MINES INSPECTION.**—In the House of Commons, on Thursday, Mr. Macdonald asked the Secretary of State for the Home Department if the annual reports of 1880 of the Inspectors of Mines had been received at the Home Office; and, if so, when they might be expected to be laid upon the table of the House and printed for circulation. Sir W. Harcourt: The reports have been received, are passing through the Press, and it is hoped will be ready for circulation towards the end of the month.

**INSPECTION OF EXPLOSIVES.**—The report of Major A. Ford, her Majesty's Inspector of Explosives on the circumstances attending an explosion of gunpowder and blasting cartridges which occurred at Messrs. John Hall and Son's cartridge factory at Eastwood, near Nottingham, has just been issued. It appears that immediately after the restarting of a cartridge-making machine, which does not seem to have been provided with all the most approved safety appliances, an explosion occurred which resulted in the death of three young women and the serious injury of the fourth. The Inspector, after discussing the probable causes of the accident, says that "taking all the accidental and all the wilful causes, and assigning to each its due weight as a probable cause, we see that there is really not one to which any high degree of probability attaches. In the absence of any other evidence it seems to me that no other conclusion could reasonably be come to than that the machine was probably to blame; and when the evidence afforded by the machine is thrown into the scale this probability rises almost to a certainty. The explosion was then, we may believe, due to a defect in the machine; and the question as to whether anyone is to blame in the matter has now to be considered. Great latitude ought, in my opinion, to be allowed in all cases where new machines are employed; it is impossible that defects can always be foreseen. This cartridge machine was intended to be an improvement on those at the works of Messrs. John Hall and Son, at Faversham, where the pressure only is given by machinery, and the rotation by hand; it occurred to Mr. Ault, the manager of the Eastwood factory, that the rotation and the feed arrangement could also be worked by machinery, and he devised this method of doing it. He foresaw that there must be some plan to allow the machinery to continue working in the event of a sudden stoppage of the rotation by some external cause, and he used a spring at the end of the arm for this purpose. The plan, considered abstractedly, was a good one; but, unfortunately, instead of making the spring as weak as possible, that there might be no forcing of the rotation in the event of a slight resistance occurring, he made the spring of considerable strength."

**MOUNT'S BAY CONSOLS.**—Glancing at the names of the directors of this company (which proposes to acquire three mineral properties in one of the best of the Cornish tin and copper producing districts) it will be found that they are all connected with East Wheal Rose and Old Shepherds Mines. Now it is a matter of history—and of recent history too—that the shares of these companies soon after being announced went to a substantial premium, at which they have remained ever since. In fact, the holders of the share exhibit no disposition to sell, even although they can get a price not far short of 100 per cent. on the original purchase money. Now when directors of this kind invite the public to consider a fresh prospectus of one thing they may be sure—that it will receive more than an ordinary share of attention from those into whose hands it may fall. That attention will be well repaid, for the readers of the prospectus will see that it deals with properties of commanding value, whose past history has added to the fame of Cornwall and to the wealth of its mining adventurers. These properties acquired and those in the immediate vicinity yielded 4,000,000/- sterling in an age when boring machinery was unknown, and many of the other modern appliances absolutely undreamt of. The sett consists of Sydney Cove, Trebarvah Mines, and the Pembrokeshire Copper Mines, and respecting these some half-dozen mining experts of repute are unanimous in the opinion that finer mines are probably not to be found in all Cornwall. The Sydney Cove Mine has a large number of rich copper lodes, including the Great Wheal Vor, and all students of mining history know that this yielded ore to the value of 500,000/- The lodes are standing whole, and very little mineral has been taken away. The estimated produce of this part of the property of the company—one-third of the sett—is 250 tons of copper and 20 tons of tin per month. Therefore, the inference is not unfair that good dividends could be paid on the share capital for this part of the sett alone. But there are the Trebarvah Mines, which also are very rich, judging by the copious and careful reports which have been presented upon them. These reports are worthy of attention, and particularly the statement of Capt. Laity, who says that an output of 500 tons of copper per month may be expected. The statement is nothing by itself, but the facts (all set forth in his report) on which it is based give a strength and a force it certainly would not otherwise possess. The Pembrokeshire Copper Mine is next dealt with, and testimony is not wanting as to its exceptional value. The machinery once erected, returns can immediately be made. So confident are

the vendors of the success of the mining operations that they have guaranteed a dividend of 7 per cent. for the first year, feeling satisfied that the profit will be so large that they will not be called upon to redeem it. In this opinion the directors concur. Altogether the company is regarded as one of the most promising that have of late been advertised, and the promoters will not be surprised if the "letters of regret" were equal in number to the "letters of allotment." So far as can be seen only immediate applicants are likely to obtain any shares.

**GOLD MINING IN VICTORIA.**—We are favoured by the Secretary for Mines—Mr. THOMAS COUCHMAN—with the reports of the mining surveyors and registrars for the quarter ended December, 1880. There were 38,568 miners employed; of these 14,547 Europeans and 8369 Chinese were engaged in alluvial mining, and 15,535 Europeans and 117 Chinese engaged in quartz mining. The approximate value of the mining plant in use was 1,831,658/. The number of square miles of auriferous ground actually worked upon was 12354, and the number of distinct reefs actually proved to be auriferous was 3630. The total quantity of gold got during the quarter was 76,745 ozs. 13 dwts. from alluviums and 151,882 ozs. 16 dwts. from quartz reefs: together, 228,628 ozs. 9 dwts. The quantity of quartz crushed was 280,607 tons, which yielded 135,124 ozs. of gold, or 9 dwts. 15-14 grains per ton. The 7354 tons of quartz tailings and mullock crushed yielded 6754 ozs. of gold, or 1 dwt. 20-07 grains to the ton. The 1743 tons of pyrites and blanketing operated on yielded 38243 ozs. of gold, or 2 ozs. 3 dwts. 22 grains per ton. In the central division of Ballarat alone 17 companies paid 33,7167. 9s. 2d. in dividends during the quarter.

#### NOVA SCOTIAN INDUSTRIES AND THEIR DEVELOPMENT.

The most hasty glance at the figures given in the annual reports of the Nova Scotian Department of Mines will suffice to create a feeling of surprise that the province has hitherto made so little noise in the world of industry, and that complaints are so frequently heard of the apathy of the Nova Scotians with regard to the vast resources within their reach. It is, however, gratifying to find that there are now strong indications of more energy being displayed, and that the result is highly encouraging. The output of coal was one-third greater in 1880 than in the preceding year, having been no less than 1,032,710, and there are some who consider that this might be largely and profitably increased by sending the coal, which costs but 2s. per ton at the pit's mouth, to the markets of Europe, where from the prices realisable there is a fair field for successful competition. During the year 13,234 ozs. of gold were obtained, and the output of iron ore and manganese nearly doubled, being 51,193 tons and 223 tons respectively. The figures for gypsum, building stone, barytes, limestone, fire-clay, grindstones, &c., were equally satisfactory, but complete returns being unobtainable the full extent of the improvement is not shown. The increased activity will, it is confidently anticipated, be maintained, and it is hoped that greater attention being now directed, by the teaching in the science schools, to the wealth which the natural productions of the province may be made to yield a long period of prosperity will dawn upon Nova Scotia, and enrich all who may engage in its development.

That the development of the natural resources of a country is facilitated by enabling the inhabitants to recognise those resources and turn them to account cannot be doubted, and it is from the appreciation of this view that the executive of King's College, Windsor, have used such creditable exertions to encourage the acquisition of the necessary knowledge by those who will hereafter be called upon to conduct the business affairs of the province. The standing of King's College as a university is admittedly so high that it is scarcely necessary to refer to it, many of the members of the learned professions throughout Canada claiming "Old Kings" as their *alma mater*; and although during the last ten years death has been particularly severe upon the faculty, having removed the president and all the professors who were in office in 1871, it cannot be questioned that the vacancies have been filled with equally competent men, especially as during the past few years there has been a gradual and constant increase in the number of students on the roll, and the work done by them is of a decidedly higher class. Under the presidency of Canon Dart the general tone of the college has been raised, so that at present for divinity, classics, and belles lettres, it is without a rival in the Dominion, whilst mathematics, natural philosophy, and general science receive ample attention. The late Dr. How has been succeeded in the chair of Chemistry, Geology, and Mining by Prof. J. W. Spencer, who is an able teacher, and as he has given much attention to geological research will be able to throw light upon the commercial value of Nova Scotian minerals, which will not only be appreciated by readers of the *Mining Journal* seeking a field for the remunerative employment of their capital, but which will benefit the province by attracting outside capital to it. Quite recently, some six weeks since, Prof. Spencer read an interesting paper before the American Philosophical Society on his "Discovery of the Pre-glacial Outlet of the Basin of Lake Erie into that of Lake Ontario; with Notes on the Origin of the Lower Great Lakes of the North American Continent," and an early opportunity will be taken to publish an outline of it.

An enthusiastic geologist, and at the same time a man of business, Prof. Spencer, is not likely to let the commercially valuable minerals escape attention, especially as Windsor has already some celebrity for its manganese deposits, and it is beyond doubt an excellent geological region for students. With regard to King's College, it is most desirable that the Museum should be made to represent more perfectly the vast mineral resources of Nova Scotia, and Prof. Spencer has expressed his determination to give his best attention to this matter. It is at present somewhat poor in this respect, but there is some compensation in the fact that he has a large geological collection of his own, and as the college is admirably provided with chemical and philosophical apparatus of the best description it cannot be doubted that those training for civil or mining engineers have every facility for acquiring a complete knowledge of the scientific details connected with their profession. In paleontology Prof. Spencer has done some original work, as well as in geology, so that it may be expected that at no distant date the Transactions of the Scientific Societies of England and America will be enriched by his contributions. His ambition at present seems to be the working up of the Great River Age of America, which is certainly as important as Giekie's Great Ice Age. It is an unexplored branch of investigation, but it may even now be stated that he has ascertained facts which will seriously conflict with the Continental Glacier theory.

It is not surprising that a man of this class should at once have turned his attention to improving the science curriculum of the college with which he is connected, and as he has received the hearty co-operation of President Dart and the Board of Governors, the result has been most gratifying, although somewhat interfered with by the illiberality of a section of the Legislative Council, which has led to the withdrawal, although it is hoped temporarily only, of the Government grant which the college has hitherto enjoyed. This step is the more regrettable, as the withdrawal was by no means the wish of the people, the grant having been passed by the House of Representatives with but one dissentient voice, and thrown out in the Legislative Council by a majority of one only. It is to be hoped that the decision will be reconsidered as soon as legally practicable, and that those who have to legislate will recognise that both in America and in France it is well understood that all expenditure on schools and colleges is abundantly repaid in the increased commercial advantages which the people are able to secure, and that ignorance is the despots best weapon. But to return to the King's College science curriculum, it may be safely said that it leaves little to desire. It is now one year's (every day) lectures on inorganic chemistry, with practical work, and two terms in experimental physics. Then comes responses, the passing of which is a guarantee that the student has satisfied the examiners in classics, English literature, mathematics, a modern language, and other subjects regarded as essential in the education of a gentleman. For the degree he has then to perform a fair amount of sound practical work, including mineralogy, geology, and chemical analysis, with enough botany and zoology to ensure the successful study of geology and make it interesting. That such a course will turn

to the utmost cannot be doubted, and if these be entrusted with the control of the industrial operations carried on it is but reasonable to assume that the result will be satisfactory to all concerned.

#### SOUND INVESTMENTS.

**GRAND TRUNK RAILWAY OF CANADA.**—The report and accounts recently issued when studied by the light of the very satisfactory meeting held last week abundantly demonstrate that although there has been a marvellous rate of development during the past two years the future may be looked forward to with perfect confidence. All who are interested in this railway should carefully study the minutely analytical and exhaustive speech of the President on the occasion referred to. Abundant testimony is there afforded to justify the growing favour with which the securities of this railway are regarded, and although it is somewhat invidious to make a selection from Sir Henry Tyler's favourable statements the following extracts are particularly interesting:

"Within a limited period we may find the traffic on the Chicago line at least doubled. . . . Therefore, I may venture to predict that it is quite worth our while to make our system as perfect as we can, with the view, not of the possibility or probability but of the certainty of our having in future more traffic than we shall be able to carry. . . . As I have already told you the increased population and the increased area under cultivation in the Great West must assist us by bringing a great deal of traffic, and place us in a better position in the future than we have ever been in the past."

It is evident, from the enormous emigration which is going on at the present time, and the opening out of the vast territories in the West, that the Grand Trunk Railway must be considerably enriched. Investors are gradually awakening to these facts, and hence the recent advance in quotations. The Five per Cent. Debentures and the Five per Cent. First Preferences must be respectively regarded as high class securities; the Second Preference at 96, earning the full 5 per cent., is decidedly cheap; while the Third Preference (which earned a small dividend last year) and the Ordinary Stocks being entitled to the whole reversion of the railway (which includes the Grand Trunk Company's proprietorship of £1,192,000 of the Ordinary Stock of the Chicago line) are unquestionably attractive stocks for the future. Recent traffic returns, both on the Grand Trunk and Chicago lines, have shown such enormous expansion that the intrinsic merits of the property at the present time amply justify still higher quotations.

**NEW YORK, PENNSYLVANIA, AND OHIO (LATE ATLANTIC AND GREAT WESTERN).**—The statement of net working for the first two months of the year show less favourable results than had been expected. This, however, is wholly explained by the unusual severity of the weather. There has been increased vitality in recent receipts, and it is fair to assume that still better results will be attained before the close of the half-year, as many indications of prosperity are manifesting themselves. The ridiculous attempts which have been made to forecast results for the remainder of the half-year, based on the working of two notoriously bad months, need not be regarded with the slightest anxiety, for even in the very worst case, presuming that no cash dividend would be in stock, which at the market price would yield 7 per cent. to present investors. The position of the railway and its value to neighbouring lines are such that it must before long be absorbed by some of the great companies surrounding it.

**PHILADELPHIA AND READING.**—The traffic and revenue statements issued by this railway during the present year have uniformly shown highly favourable results, and as compared with all other American railways which suffered in January and February from the special causes already referred to, the Philadelphia and Reading's net earnings exhibited large increases instead of decreases. The inherent value of this property doubtless explains the severe contest now going on to supplant Mr. Gowan in the management. I think these shares should be held firmly for higher prices.

**MEXICAN RAILWAY.**—A review of the recent history of this company, and its extraordinary advancement to prosperity, must afford considerable encouragement to those who are interested in other railways which are now emerging from similar troubles to those with which the Mexican Company formerly had to contend. A further marked improvement in values had taken place since last month, due to the great increase of traffic earnings.

**GREAT EASTERN RAILWAY.**—A great rise has taken place in this stock during the past month. Among the many favourable features, the prospect of an early removal of the restrictions upon cattle traffic is of great importance, as direct benefit will accrue to the extent of 1200/- per week from this source. The extension of the line to the Millwall Docks in connection with the Midland is likely to bring a large amount of traffic; and, indeed, at every point on this company's system a wonderful development is going on. Thus at Harwich, in order to provide for the rapidly increasing continental traffic, and to further utilise this deep water port, a company has been formed, and will be introduced in a few days under very powerful auspices for the construction of docks, new quays, and repairing slips. When these works are completed a totally new trade will be attracted to the port, to the manifest advantage of the railway. The consideration of these facts, in conjunction with the approaching completion of the northern extension, by which access will be gained to the coal, iron, and manufacturing districts of the North, all tend to demonstrate the growing value of the ordinary stock, and those inventors who now avail themselves of the opportunity will surely be rewarded.

**ISLE OF MAN RAILWAY.**—Upon the basis of last year's earnings these shares yield over 4½ per cent., but the prospects for 1881 point to a dividend of 6 per cent., which would pay a present buyer nearly 5½ per cent. This is a well managed and progressive mine.

**CORNWALL MINERALS RAILWAY.**—After some years of depression, induced by the vicissitudes which overtook the various mining enterprises upon which the success of this railway depended, it at last shows signs of revival. In 1879, for the protection of various interests, the line was placed in the hands of a receiver, but steps are now being taken to restore its independence. The immediate inducements for bringing about this desirable result are no doubt afforded by the growth of the traffic receipts (the month of January and February showing an increase of over 50 per cent.), and the re-opening of tin, copper, iron, and china-clay enterprises in Cornwall. Recent progress has been so very satisfactory, and the prospects of steady continuance are such, that in lieu of the guaranteed minimum rental now paid by the Great Western Company, the latter will probably exercise their option, which expires next year, for the purchase of the line on the following agreed terms—to guarantee 4 per cent. on the preference stocks and 2½ per cent. upon the ordinary, in which event both preferences would be worth 110, and the ordinary about 70. If the Great Western should not exercise this option, I have much confidence in the latent merits of the property, that it will pay the shareholders to wait for its natural development. Meantime, the 6 per cent. preferences at 54, the 5 per cent. preferences at 46, and the ordinary at 33 are, in my opinion, attractive investments for the future.

**TRAMWAYS.**—After a period of neglect there are symptoms of returning vitality in these securities. This is scarcely surprising, when it is remembered that the majority of them pay dividends ranging from 3 to 8 per cent., and that experiments during the past month have demonstrated the practicability of substituting mechanical for horse-power. In anticipation of returning activity, I recommend a selection of dividend-paying and non-dividend-paying shares for investment. Of the latter the most attractive are Swansea, Birkenhead, Imperial, and Sunderland.

**BORDEAUX TRAMWAYS.**—The traffic returns indicate a very favourable result for the half-year, and I think 6 per cent. for the current six months, and 7 per cent. for the remainder of the year may fairly be anticipated. The 10/- shares at 10s. premium are therefore cheap.

**TRAMWAYS OF GERMANY.**—The steadiness with which the earnings of this tramway system continue is most encouraging. For the four months ending April 30, the increase amounts to 156%, or

15 per cent. There can be no doubt as to the earning of a greatly increased dividend over last year, when 6 per cent. was paid.

CANADA COPPER AND SULPHUR COMPANY.—Recent reports from these mines are of the most favourable character, and in my opinion the 4*l.* fully paid shares are now much better worth 3*l.* than when quoted at that price a year ago. They can now be bought under 2*l.*

INDIAN GOLD MINES.—There has been much animation in this market, and the most conspicuous feature has been the advance from 20*l.* to 50*l.* in the shares of the pioneer undertaking the Indian Gold Mines Company of Glasgow. The analysis of its first crushing operations has not yet been received in London, but it is hourly expected. As soon as it is made known considerable firmness will no doubt be imparted to the market for the four companies which I have recommended.

SOUTH INDIAN GOLD MINE.—The special report of Mr. Jennings, the secretary, who has just returned from a personal inspection of the property in India, is a valuable addition to the accumulated evidence as to these merits of these enterprises. It is worthy of very careful study. The dividend of 4*s.* per share will be paid immediately after the deed of transfer of the Trevelyan property has been registered in Madras. This announcement is looked for immediately. The company's holding of Indian Trevelyan shares now shows a profit of 50 per cent.

INDIAN GLENROCK.—It is evident that this company possesses so many valuable reefs that it will be impossible to work them all. The forthcoming practical demonstration by the Glasgow company will, therefore, afford the opportunity for the formation of a number of sub-companies, to the great enrichment of the parent undertaking.

INDIAN PHOENIX.—Now that the machinery and the first contingent of miners have arrived in India from Australia, the works are being pushed on very energetically. The position and prospects are spoken of most favourably by disinterested persons who have recently visited the property.

INDIAN TREVELYAN.—The confirmation of the report that alluvial deposits exist on this company's estates is an important feature affecting their value. The surface rights have just been purchased, so that the property is now freehold. All the works are rapidly progressing.

I think the shares of the above four companies are well worth buying.

POTOSI GOLD MINING COMPANY.—This company has been only a few months in existence, although the gold from its quartz reefs has been sold in London in steadily increasing quantities for 10 years past. The shares, which at one time were about 1*l.* prem., have recently dropped to 2*s.* prem. This price represents the disappointment caused by inefficient working rather than by any change in the value of the property, and the shares are now worth purchasing to hold for permanent investment.

ELECTRICITY.—The wonderful development of electrical science during the past few months has been so marked that its application to practical purposes will undoubtedly ensure a new outlet for the profitable employment of capital, its utility having already been publicly and officially recognised, both in respect of its adaptability for lighting and telephonic purposes. Thus far the total amount of capital subscribed for such enterprises is infinitesimal; but there is no doubt that as their popularity reaches beyond the limits of the City of London there will be any amount of money forthcoming for further extensions in every other part of the world. During the past month the value of the electric light as a substitute for gas has been clearly proved by the test of absolute experience in the City, while at the same time the use of the telephone, since its recognition by the postal authorities is spreading with a rapidity unknown even in the history of telegraphy.

ELECTRIC LIGHT AND POWER GENERATOR COMPANY.—Recent demonstrations prove that this company's system of electric lighting divides the honours with the "Brush" Company, and a careful perusal of the prospectus will show that the business which is likely to result from the successful experiments of the past two years, both in England and France, a very profitable future is assured to the undertaking. While opinions may differ as to electric lighting superseding the use of gas there can be no question that it must to a very great extent become a more popular illuminating agent, and it is, therefore, a matter for consideration whether holders of gas securities would not act wisely in exchanging a portion of their investments for shares in the best electric light companies. The 1*l.* shares of the Electric Light and Power Generator Company are already quoted at about 7*s.* 6*d.* premium, and, in my opinion, they are likely to attain a much higher value.

TELEPHONE CONSTRUCTION AND MAINTENANCE COMPANY.—Formed upon the same basis as the Telegraph Construction and Maintenance Company (which has been the successful pioneer of submarine telegraph enterprise), this company is likely to prove equally fortunate in the development of this new branch of electrical science. Existing contracts alone will ensure a handsome return upon the capital, and it is, therefore, not surprising the shares are quoted at 10*s.* premium.

—From Mr. Wm. Abbott's Circular for May, 10, Tokenhouse Yard, London, E.C.

THE BATLEY BOILER EXPLOSION—A PROSECUTION ORDERED.—At the Batley Town Hall, on Tuesday, upon an information laid by Superintendent Airton, of the West Riding Constabulary, Mr. Joseph Watts, solicitor (Messrs. Watts and Sons, Densbury), applied for a summons against Thomas Hurst, the owner of the New Brighton Woolen Mills, Carlinghowe, the charge being manslaughter in having caused the deaths of a number of his workpeople by working a steam boiler in an unfit condition. The Mayor (Alderman Isaac Parker), to whom the application was made, granted a summons, returnable on the 12th inst. Mr. Watts also applied for, and obtained, about forty subpoenas for witnesses. The proceedings are at the instance of the Public Prosecutor, and Mr. Watts is acting on his behalf.

THE GEOLOGY AND MINERALOGY OF SCOTLAND.—An interesting and admirably illustrated paper on this subject, by Professor T. F. Heddle, of St. Andrew's University, occupies the greater portion of the current quarterly number of the Mineralogical Magazine and Journal of the Mineralogical Society of Great Britain and Ireland. Although not in any sense a mineralogical paper, it will without doubt be acceptable to every reader of the Magazine, since it conveys an excellent idea of the district to which it refers, and will therefore be valuable to mineralogists who may visit it. The other papers contained in the volume are—On Certain Crystalline Products formed in Smelting Operations, by Mr. W. Terrill, F.C.S. The specimens referred to in the paper include some dark green crystals of arsenite of copper resembling in appearance native olivine. An analysis of carefully selected crystals showed that they corresponded with olivine except for the absence of water and a slight excess of cupric oxide. The next specimen was a crystalline black oxide of copper, and the others a tin white alloy of copper and arsenic; a similar product but covered with a layer of green arsenite of copper; coarse metal cooled slowly in hollow cavities in which black octohedral crystals have formed which are strongly magnetic; a piece of ordinary white metal slag which cooled and solidified upon a bed of white metal. The surface which was in contact with the white metal below is beautifully crystalline, in oblong patches, each patch being striated in two directions so as to form a cross. The striae are so fine as to produce a remarkable iridescence. Prof. H. Carrington Bolton contributes a valuable paper on the Action of Organic Acids on Minerals. By a singular eccentricity the author several times cites the Comptes Rendus in the singular because a single volume is referred to. Prof. Heddle, in addition to the paper already mentioned, likewise contributes the third part of his Memoirs on Substances which may prove to be new Minerals, which refers to Tyreite. The concluding paper is a very short one, by Dr. Charles O. Trechmann, on Crystallised Olivine from Slag. There are some interesting reviews and notices, and amongst the latter is the announcement that the Rev. Henry How, Vicar of Newport, Nova Scotia, is offering for sale the entire and large collection of Novan Scotian minerals amassed by his late father—Prof. How, of the University of King's College, Windsor, and an esteemed correspondent of the Mining Journal—together with

his general collection of some 3500 specimens. The Mineralogical Society appears to be making good progress; it has now over 150 members and about a couple of dozen associates.

#### ROMAN GRAVELS MINES.

It is gratifying to find that large as is the amount of attention at present being paid to foreign mines our home enterprises afford abundant evidence that they are well able to hold their own amongst dividend paying concerns; and Roman Gravels, as will be seen from the report of the meeting held on Wednesday, published in another column, commences its second decade with all the pristine vigour which characterised it when it was originally opened out. The report of the managers, Capt. Arthur Waters and Son, speaks for itself: "The reserves of ore ground now in sight are greater than at any previous period; it will require no stretch of imagination to believe that Roman Gravels is one of the best, if not the best, lead mine in the kingdom. Perhaps the finest and longest course of lead ore ever driven on in any mine in Shropshire or Wales is, it is remarked, to be seen in the 65 south (the Pioneer level), which in reality may be said to have been continued in an average course of rich lead ore ground for the last ten years driving, and is still a rich lode, valued as it will be observed at about 10 tons of ore, or 10*l.* per fathom; but which may be said to be nearer worth 150*l.* per fathom, and there is every appearance of this lode continuing to be of great value in this direction for years to come."

It is now almost exactly ten years since the present company was formed with a capital of 12,000 shares of 7*l.* 10*s.* each, Messrs. Peter Watson, Mundey and Southgate having purchased them a year previously for 47,500*l.*, and the property opened out splendidly, so that by 1873 the manager was able to report that their reserves exceeded 500,000*l.* in value. Since this the mines have continued to open out enormous courses of ores, and especially in the 65 south, and the result has been to the shareholders that dividends have been paid to them of about 8*l.* 5*s.* per share, or about 100,000*l.*, and the present marketable value of the property is about 168,000*l.* only. Again, in addition to this may be fairly put down only a sum of 2*l.* 10*s.* to 3*l.* per share (30,000*l.* to 36,000*l.*) taken from revenue or profits spent on the erection of steam-engines, boilers, extensive dressing floors, and buildings of various descriptions, and underground plant, timber, iron, &c., so that there are but few if any mines in this country can show such an extensive and valuable plant as can now be seen at Roman Gravels Mines. Shareholders will now see what has been done for their best interests in the future great development of this extraordinary rich mine, and which redounds to the great skill and ability of the manager, Capt. Arthur Waters, and the staff under him. At the meeting on Wednesday Mr. Peter Watson was unanimously elected to a seat at the board, so that the continued good management of the property is assured, and it is not doubted that the company has a long period of prosperity before it.

#### THE DRAKE WALLS UNITED TIN AND COPPER MINING COMPANY.

Although the list of subscriptions for shares does not close until Monday, dealers are so confident that the number to be allotted will bear but a small proportion to the number asked for, that they are already quoted at a good premium. Many who sold at a small advance on the par price, upon the assumption that the capital would flow in but slowly, have already discovered their mistake, and have since bought freely at 1*l.* to 1*l.* 5*s.*, and during yesterday and to-day some large operators have quoted 1*l.* to 2*s.*, and shown no indisposition to purchase at the former price. The quotation for shares does not of itself afford any indication of the value of a mine, but it may be accepted as an evidence that full confidence is felt in the stability and success of the company. In this particular instance, however, the mines could scarcely be more favourably situated, for Mr. Moses Badwin, whose position as an officer in Devon Great Consols and numerous other successful mines, gives weight to his assertions, and states that they are on the south-eastern slope of the Kit Hill and Hingston granite range, and occupy a position with regard to the granite precisely similar to the celebrated Dolcoath, Tin-croft, and Carn Brea Mines; the length of the sets on the course of the lodes being about 2 miles. It is remarkable that these mines—although being some of the oldest in Cornwall—are only 100 fms. deep, and were for more than a century worked in open cutting, the lode being from 50 to 60 ft. wide in many places, and operations were so extensive as to induce the proprietors to erect their own tin smelting works on the property, and which must have been very successfully carried on for many years.

From a very early period in the history of these mines, he continues, the great object of successive companies has been to drain the water by means of a deep adit, which was started near the River Tamar, on the eastern boundary, and which has since, on many occasions, been taken up and attempted, but failed in accomplishment until the late company in the year 1878, acting on my advice, re-started this most important work, and I am pleased to say that the adit is now driven for nearly 300 fathoms in length, leaving only about 40 fathoms to be further driven to reach the main workings on the great tin lode, from which the water is now daily receding rapidly, and very shortly the whole of the valuable tin and copper lodes will be drained to a depth of 72 fathoms, and immediately thereafter operations can be commenced on the profitable lodes, which may be wrought to almost any extent free of water charge. He has known the mines for more than 30 years, and can speak of the importance of work which has been so nearly completed by the late company, and I am fully persuaded that on completion of the deep adit, and resuming the deeper development of these grand old mines, they will again take their position as some of the most profitable mines of Devon and Cornwall. I held a number of shares in the late company, and shall be prepared to take a considerable interest in the new one about to be formed, feeling assured that I shall be repaid with good interest for the outlay.

The report of Capt. Isaac Richards, also a Devon Great Consols officer, is equally encouraging. In concluding a detailed report he says—"I would observe that looking at the situation of these extensive mines, being on the junction of the granite and killas formation, and having many lodes, elvan and cross-courses traversing the set, such as are found to exist in all the most productive mines in Cornwall, together with the very great advantage of being enabled to work at such comparatively easy water-charge, as soon as the deep adit level shall have been communicated with the old workings, I consider Drake Walls Mines to be a very valuable property, and if energetically worked will return large quantities of mineral, leaving good profits to the proprietors." It is understood that the shares have been largely applied for by both English and Scotch capitalists, and as Mr. Peter Watson will practically have supreme control no doubt is entertained that the company will soon resume its old position in the Dividend List, and thus give ample satisfaction to all concerned.

#### GOLD HILL MINES (LIMITED).

The Gold Hill Mines Company is announced, with a capital of 140,000*l.*, with a like number of shares of 1*l.* each, of which 46,666 are reserved for the vendors in part payment of the property, and 93,334 are offered to the public for subscription. The object of the company is to purchase and work the celebrated Gold Hill estate, a freehold property of about 500 acres, the validity to the title of which has been fully tested. The estate is situated in Rowan County, North Carolina, 14 miles south of the city of Salisbury, and within 24 hours of New York. There exists on the estate three principal lodes or veins, which may be considered three distinct mines, known as the Randolph, the Middle, and the Barnhardt, which are almost parallel, and run through the property for a distance of about 680 fms. of which only about 150 fms., or less than one-fifth, have been worked, and even that only partially. There is already on the property mining machinery, houses for 50 miners, manager's house, stabling, &c., which the company will acquire, together with about 22,700 tons of gold tailings of an estimated value, according to the assays made by Messrs. Johnson, Matthey, and Co., of Hatton Garden, allowing 60 per cent. for working expenses, of 30,000*l.*, which can be treated and sold so soon as the stamping-mills which the company intend to erect are put up.

Messrs. Johnson, Matthey, and Co.'s certificate shows that of six samples of ore submitted to them No. 1 produced 138,500 ozs. of gold and 6,500 ozs. of silver; No. 2, 116,500 ozs. of gold and 11 ozs. of silver; No. 3, 17,600 ozs. of gold and 1 oz. of silver; No. 4, 3,100 ozs. of gold and 0,500 ozs. of silver; No. 5, 1,600 ozs. of gold, with traces of silver; and No. 6, 0,700 ozs. of gold and traces of silver per ton of 20 cwt. of ore; and Captain Treloar's estimate of the value of the tailings, as above given, is founded on the value of the gold in the last three assays only, the three larger assays being excluded from the estimate, being of specimens from the mine itself. The mine is described in various reports by Professor Emmons, Government Geologist to the State of North Carolina, who states that upwards of \$2,000,000, or 400,000*l.*, were taken from the mine up to 1858, and from the inspection of the operations it is impossible to resist the conclusion that owing to the imperfect machinery much of the gold was wasted along with the mercury; by General L. L. Clingman, who states that the mine with indifferent working has yielded more than \$3,000,000 in gold, and yet the various assays made would indicate that probably less than one-fourth of the gold in the ore was secured by the miners; and by Mr. Henry Tessell, M.E., of North Carolina, who having inspected the mine writes—"I am convinced that if the property was in the hands of a good company with a fair capital it could not help being one of the richest mines in this country."

Moreover, Capt. Treloar, a gentleman of great experience in gold mining, having been connected with the St. John del Mining Company, the Imperial Brazilian Mining Association, and other well known companies, having been specially sent in February last to verify the reports just alluded to, states that he has never seen a prospectus presenting greater promise or one so likely to be

turned to a profitable account in so short a time with a moderate amount of capital. The last-named gentleman, who has accepted the office of manager of the mines, estimates the yearly returns from the mine at 43,200 ozs. of ore at 1 oz. of gold at 3*l.* 15*s.* per oz.—162,000*l.*—and the cost of working at 65,000*l.*, giving an annual profit of 97,000*l.*, or over 70 per cent. on the capital of the company; and though the directors do not see any reason for varying the estimate, they point out that even if it be reduced by one-half or two-thirds the mines will still be an unusually favourable investment.

Captain Treloar further states that the return would be increased by all the ore, which yielded above an ounce in the ton, and that from an examination of the workings the lodes may be safely relied upon to give the amount estimated for a space of fully 50 years, and with regard to the question why the owners did not formerly realise the results estimated, he may state that the proprietors worked with very wretched machinery; had no stamping mills, and the arrangement was altogether bad, but notwithstanding large fortunes were made out of the mine, and it was not stopped for poverty, but on account of the civil war, which put an end to all mining operations in the district.

With regard to the title to the property, Messrs. Craigie and Clement, attorneys of Salisbury, North Carolina, and Messrs. W. H. Bailey and J. M. McCord, the attorneys of the vendors, have given their opinion that it is clear and valid, and the Honourable Z. B. Vance, Senator of the United States, confirms these opinions, and states that he finds nearly every link of the chain of the title to the property has been passed upon and adjudicated by the Supreme Court of North Carolina, the highest Judicial Tribunal of the State, and the Right Hon. Sir Edward Thornton, K.C.B., Her Majesty's Minister at Washington, certifies that looking at the high reputation of Mr. Vance as a lawyer, and his distinguished position as a Senator, that his opinion in regard to the title of the property is entirely to be relied upon, and should be satisfactory to the British subjects who propose to purchase it.

The company have given notice that the Share List will close this day (Saturday) for town and country subscriptions.

#### THE HISTORY OF SALT.

There are few substances with which all people are better acquainted than salt, yet comparatively few have any knowledge of its history and properties, so that the History of Salt\* by Dr. Boddy will be generally acceptable. He remarks that the parodies of science—spiritualism, homeopathy, vegetarianism, and various other bastard distortions—have exerted as yet no material influence on modern thought, though there is a visible impress observable here and there, and they doubtless will ultimately collapse like alchemy and other illusions of a bygone age, and in due time will fall as ignominiously before the resolute onslaughts of true science and knowledge as those deceptive will-o'-the-wisps were finally extinguished after whistling about for some centuries by the calm, dignified, and logical condemnation of philosophical and scientific investigation. Referring to a writer who advises total abstention from salt, Dr. Boddy says that the palpable absurdity of such an argument must be apparent even to the most careless thinker. It is with the view of exposing such a fallacy, both injurious and irrational, that he has written his treatise, and he has been prompted to do so more especially as he finds such ridiculous notions find great favour with those from whom better things ought to be expected.

In the several chapters of his book Dr. Boddy treats of the history of salt; of salt as a chemical, therapeutical, and toxicological agent; its geographical distribution; geological formation of salt; its effects on animal and vegetable life; its medicinal and dietic properties; and its physiological properties; whilst in his concluding chapter he remarks that he has simply written in order to point out the virtues of an aliment of the greatest interest in whatever light we may look at it, and that he has tried to impress upon the reader the advisability, and indeed the necessity, of using the bountiful gifts of Nature in a manner consistent with common sense, and not to follow blindly and credulously the whims and conceits of others, but to regard their frantic efforts to indoctrinate the thoughtless with that dispassionate indifference which is the sign of philosophical complacency and superiority. The volume throughout gives evidence of having been written with a desire to convey information, and not with the object of making a display of knowledge (which may or may not be stored in the writer's brain), as is too often the case. Dr. Boddy's work will amply compensate the reader whether it be read for amusement or for instruction, and it will certainly remove many erroneous impressions which have of late been developing to an objectionable extent.

\* "The History of Salt," with observations on its geographical distribution, geological formation, and medicinal and dietic properties. By EVAN MARLETT BODDY, F.R.C.S., Lieutenant of the Royal College of Physicians, London; Baillière, Tindall, and Cox.

#### ELECTRICITY AND ITS APPLICATION.

The successful application of electricity for general illumination as evidenced by the results obtained, especially with the Brush light in the City of London, has caused renewed attention to be directed to electrical matters, and has no doubt revived the hopes of many that projects which they had long since abandoned may still be turned to practical account. Before taking any step, however, it is essential that the inventor should know what has already been done, for without question much of the disappointment which inventors have to submit to arises less from want of ingenuity in their inventions than from the fact that what they propose has been invented long previously, and not unfrequently superseded by subsequent improvements. For obtaining this knowledge the Abridgments of Specifications published by her Majesty's Commissioners of Patents, afford all necessary facilities. The series relating to electricity and magnetism is a particularly comprehensive one, extending upwards of 1600 pages, yet is obtainable through the post for 8*s.* The introduction is alone worth many times the cost of the entire volumes even to the general reader, who has no thought of turning his attention to the further development of electric illumination or of any other application of electricity, whilst to the inventor the volumes will prove invaluable by preventing him from wasting his time when there is no novelty in his ideas.

There appears little doubt that something was known about magnetism long before the existence of electricity was recognised; but whether the somewhat questionable circumstance of the shepherd Magnes being detained on Mount Ida, in Phrygia, by the nails in his boots gave the name to magnetism is not quite so certain. If early Chinese history is to be credited the employment of the magnetic needle enabled the Emperor Hoangti, about 2600 B.C., to overtake his enemy Tchi Yeo, make him prisoner, and put him to death; but since early Chinese history cannot usually be relied upon, the record is not of much value. The attractive power of the loadstone is noticed by various Greek and Roman writers from the time of Homer, and there seems to be no doubt that the Chinese used a magnetic needle for sailing on the Indian Ocean at least 700 years before it was employed by European nations; and as to their early knowledge of the variation of the compass it is mentioned that it is stated in a Chinese book on medicine and natural history, about 1111, that when a steel point is rubbed with the magnet it acquires the property of pointing to the south; yet it declines always to the east and not due south. If the needle be passed through a wick (made of a rush) and placed in water it will also indicate the south, but with a continual inclination towards the point ping or 5-6ths south. This was the variation at Pekin. As to electricity there is a notice of Strada's "Prolusions Academicae," which, but that the reference is to a merely unapplied idea, might place the discovery of the principle of the electric telegraph as far back as 1617. Strada "supposes a species of loadstone which possesses such virtue that if two needles be touched with it and then balanced on separate pivots, and the one be turned in a particular direction, the other will sympathetically move parallel to it." He then directs each of these needles to be poised and mounted on a dial having the letters of the alphabet arranged round it. Accordingly, if one person have one of the dials and another the other, by a little pre-arrangement as to details, a correspondence may be maintained between them at any distance by simply pointing the needles to the letters of the required words.

Turning to the body of the first volume it will be found that in June, 1792, William Fullarton invented a method of separating iron

will be preferable to leave the reader to consult the abridgments for himself. The indices will assist him to trace any particular application of electricity with the utmost possible facility, and if the reader be not seeking valuable hints he will at least acquire much useful knowledge.

\* "Abridgment of Specifications relating to Electricity and Magnetism: their Generation and Applications." London: Commissioners of Patents' Sale Department, Cursitor-street.

**CASSELL'S PUBLICATIONS.**—"Science for All," part 42, contains the conclusion of the article "How Buildings are Protected against Lightning," and articles on coal gas, by Mr. J. Falconer King; "On the Minor Planets," by Mr. W. F. Denning; "On Sharks and Surgeons," by Mr. F. Jeffrey Bell; "On Fluorescence," by Mr. William Akroyd; and "On the Silkworm Disease," by Mr. A. B. Farn. The "History of Protestantism," part 23, extends from the chapter on Henry II. and his persecutions to the time of the conference at Bayonne and the plotting of the St. Bartholomew massacre. "Knight's Dictionary of Mechanics," part 53, extends from percussion cap filling machine to picker.

**KING'S COLLEGE RECORD.**—The current number of the "King's College (Nova Scotia) Record" affords abundant evidence of the vitality of the university from which it emanates, and which, by the way, is the oldest colonial university, its foundation dating from 1788, and its Royal Charter from 1802. It is, moreover, the only university out of England with a Church of England theological faculty. Since the "Record" was last noticed in the *Minning Journal*, some twelve months since, it has been considerably enlarged, it is better printed, all new type being used, and is admirably edited. It is at once a credit to the College and to the students.

#### THE FULLY-PAID SHARE QUESTION.

An important decision has just been given by Vice-Chancellor Hall in the case of the Great Australian Gold Mining Company. The point raised was whether a shareholder who has contracted to take and believes himself to have taken fully paid up shares, and afterwards finds that such shares are, in fact, not fully paid up, and has to pay calls upon them in the winding-up, can prove against the company in the winding-up for damages in respect of their breach of contract in not allotting him fully paid-up shares. The present case, which came before the Court on April 7, was an application by a Mr. Appleyard, the solicitor and a director of the above company, for leave to prove in the winding-up of the company in respect of such a breach of contract. It appeared that Mr. Appleyard was the holder of two debentures for 500*l.* each, and that by agreement between him and the company he exchanged these debentures, which therewith were cancelled, for fully paid-up shares. The Vice-Chancellor, however, held that the shares were not fully paid-up by reason of the neglect to register the contract in respect to them, according to the provisions of the Companies Act, 1867, and accordingly Mr. Appleyard had been fixed on the list of contributors in the company, and had either paid or would be called upon to pay 1000*l.* in respect of the shares. The Chief Clerk had refused the leave asked for on the ground, among others, that the recent decision of the House of Lords in the case of "Houldsworth v. the City of London Bank" applied, and was a bar to the right of proof.

It will readily be understood that the question affects every purchaser of fully paid shares; for should the ultimate decision be adverse to Mr. Appleyard a company's certificate that shares are fully paid will be no guarantee.—Mr. Rigby, Q.C., argued the case on behalf of Mr. Appleyard, and Mr. W. Pearson, Q.C., and Mr. Grosvenor Woods on behalf of the liquidator, and at the conclusion of the arguments his lordship reserved judgment.—The Vice-Chancellor now delivered judgment. He said the case before the House of Lords was distinguishable from and did not govern the present case. That was a case of fraud, and the decisions of their lordships proceeded on the ground that the contract between the parties did not include a right to damages for fraudulent misrepresentation. This was a simple case of breach of contract, and Mr. Appleyard was entitled to damages for breach of that contract. His lordship, therefore, granted the application.—Leave to appeal was asked for and given.

**DYNAMITE AND LITHOFRACTEUR.**—The appeal of Messrs. Jones, Scott, and Co. against the decision of the lower Court in the case of Nobel's Explosives Company against Jones, Scott, and Co. was heard and determined by Lords Justices James, Bagallay, and Lush on April 29. The plaintiffs in their claim alleged that they had discovered that the defendants, Jones, Scott, and Co., had purchased from Krebs and Co., of Cologne, large quantities of lithofracteur, and that below Gravesend they had transhipped this substance from vessels in which it was brought from Germany to ships sailing for Australia, where it was sold on behalf of the defendants, and it was contended that transhipping the lithofracteur from the German to the Australian ship was an infringement of the patent. When the evidence was gone into it appeared that the defendants were not themselves the importers, but had only cleared the nitroglycerine as agents for Krebs and Co., of Cologne, who had a magazine at Benfleet, in Essex, and that what they had done was to apply in their own names at the Custom House to be allowed to tranship the goods at Gravesend by passing the goods from the German ship to a lighter, and thence to Krebs and Co.'s magazine. An amendment was allowed at this stage of the case against the defendants, and ultimately the Vice-Chancellor granted an injunction, with costs and damages, on the ground that there had been an infringement of the plaintiffs' right. This decision was now appealed against. Their lordships allowed the appeal.

**MORAY FIRTH MINING COMPANY.**—The Master of the Rolls has granted an order for the winding-up of this company, but the order is not to be drawn for a fortnight, so that there may be an opportunity to satisfy the petitioning creditors' claim. The company was formed in 1878 with a capital of 50,000*l.*, in shares of 2*l.* each, to purchase estates containing lead, silver-lead, metallic-ferous ores, cannel coal, &c., in Elgin, Scotland. The company was registered in England, but there were Scotch as well as English shareholders. There were also Scotch as well as English creditors, and to one of the latter, Mr. Wohlgemuth, of Mark-lane, coal merchant, the company incurred a liability for goods sold and delivered. Being unable to obtain his money, he brought an action in the English Courts and recovered judgment. This he followed up by execution, which, however, was returned, and the judgment was unsatisfied. Debt and costs amounted to 123*l.* odd, and not being able to recover the amount Mr. Wohlgemuth filed a petition for winding-up the company. Mr. Ince, Q.C., Mr. Cutler, and Mr. Colt were counsel for different interests. The company desired that the petition should stand over for a fortnight, within which time they said they would settle the petitioner's claim. The petitioner objected to the adoption of this course, and submitted that he was now entitled to his order, which, nevertheless, need not be drawn up for a fortnight, and this would still give the company the same opportunity to satisfy his claim as if the petition stood over for that time.

**STORAGE OF ELECTRICITY FOR INDUSTRIAL AND HOME USE.**—A new secondary battery, of greatly enlarged capacity, is now attracting attraction in Paris. It is the invention of M. Faure, but is confessedly a development of the well-known secondary battery of M. Planté which is formed of sheets of lead immersed in acidulated water. The latter gains in capacity as the process of charging and discharging is repeated, through increasing thickness of the layer of peroxide of lead that is slowly formed by the currents. M. Faure has conceived the idea of coating the two electrodes with layers of minium, or the red oxide of lead, and by this means the capacity is greatly increased. The Faure battery is stated to have 40 times the power of accumulation of the Planté. A battery weighing 75 kilogrammes will develop 75 kilogrammes, or one horse-power, during one hour. As to the nature of the action, the electric currents appear to change the minium to peroxide on the positive electrode, and to reduce lead on the negative. In discharging, the reduced lead is oxidised, and the peroxidised lead is reduced. The battery was lately exhibited by M. Reyneir to the Society for Encouragement of Natural Industry. There were 24 couples weighing 7 kilogrammes each connected to a Siemens' machine of medium size, these

furnished a work of 47 kilogrammes, which is about a third of M. Reyneir's figures; but the conditions were unfavourable. Next, a band of platinum, 3 metres long, 12 millimetres broad, and 4-10ths of millimetre thick was made to glow; then two incandescence lamps were lighted. The superiority to the Planté battery was well demonstrated. Some competent physicists speak hopefully of M. Faure's battery as a means of distributing electricity to any house or workshop independently of others that may be supplied, and free from the drawbacks of a system of canalisation. The method is also regarded as very promising for domestic electric lighting. A company, it may be added, has been lately started in Paris by M. Philip, part, for obtaining force and light by electricity, by combination of the Reyneir and Faure batteries. M. Hospitalier has pointed out the expensiveness of charging the Faure battery with electricity from chemical action.

**COED-Y-FEDW AND PANTYBARTH LEAD COMPANY (Limited).**—The Saturday meeting of shareholders was held at the offices of the company (30, Great St. Helens) on Friday—E. J. Bartlett in the chair. A full report of the proceedings will appear in our next.

**GLENROY LEAD.**—The ordinary general meeting was held at 8, Austinfriars, on Friday, but, owing to the pressure on our space, we defer full report to next week, merely stating now that after explanations from the chairman, Mr. J. Y. Watson, and Captain Rose, the manager, the usual resolutions were passed, and the proceedings terminated with a cordial vote of thanks to the chairman and directors.

**WICKLOW COPPER.**—At the meeting in Dublin on April 30 (Mr. G. Tickell, J.P., in the chair) the report and accounts for the half-year were adopted. The report of the shareholders' committee was read, and with regard to it Mr. Solomons said that it appeared to suggest additional energy, and as it spoke of the large resources of the company he would like to know whether the directors had any recommendation to make. The meeting was here closed that the matter might be privately discussed.

**THE CARADON DISTRICT** has for some years been rising in importance as a tin mining district. This, with the increase in the value of that metal, has no doubt induced the Marke Valley shareholders to pay some attention to the tin lodes in the western part of their sett, and we may say they are wise in time. At present their operations are confined to the old men's workings and an adit level on the Wheal Jenkin lode, which lode has been so productive in the adjoining mine South Phoenix, it being the main or principal lode in this sett, and forms a junction with the Grace Den lode in the adjoining New Phoenix, regarding which opinion is unanimous, being that it is a most valuable piece of mining ground. The engine-shaft at West Phoenix is now going down in the course of the lode, and is being vigorously sunk. This, in the opinion of most mining men, will ultimately be second to no mine in the district. It should be remembered that the lode when cut through about 17 fms. from surface was valued at over 30*l.*, and it may reasonably be expected that when intersected about 10 fms. deeper it will be much more valuable. The Phoenix United Mines continue to return their usual quantities of tin per month, which, by the aid of boring machinery now about to be erected, will doubtless be largely increased.

**THE VIRTUOUS LADY.**—Many will be glad to learn that a party of influential gentlemen have met this week to consider the reworking of the old Virtuous Lady Mine, near Tavistock.

**TREWITTEN.**—Recent trials on this property, which is in the Caradon district, more than confirm the good opinion formed by the promoters, and contained in their prospectus. It is stated that the capital (12,000*l.*) is almost subscribed, and the list will be closed on Tuesday next both for London and the country.

**KEYSTONE GOLD.**—There is a feature in connection with this company which deserves special attention. A patented process is secured to the shareholders, by which the whole of the gold contained in ores of all descriptions can be extracted at small cost, a result much sought for, but not hitherto attained. This patented process is said to meet this desideratum.

**GREAT HOLWAY.**—The lead and blende sales, and the stock on hand (see monthly report) can be valued at over 1400*l.* It will be seen that the mine is opening in a splendid manner destined to be one of the greatest lead-producing properties in Wales. The cutting of the lode at the 110 is anxiously looked for. Capt. Harris says with confidence that the vein will be found rich; this statement, coming from a practical authority, is valuable, and should satisfy those who are awaiting the event.

**WHEAL AGAR.**—A good deal of the attention of the mining world is now given to Wheal Agar, which has been for a few weeks, and is now, one of the greatest mining speculations of the day, as it bids fair to be a source of permanent employment and profit. The large lode of tin, underlying from East Pool, and worked by the latter close up to its boundary, continues to yield large quantities of rich tin—high in produce and valuable in other smelting and trade qualities. About 5000*l.* worth of tin has been sold from Wheal Agar since the last account. The shares have risen from a little over 5*l.* to over 11*l.* (above that sum has been given very recently). Mr. H. Waddington holds more than 2000 shares here, so his property has increased in value 12,000*l.* in a brief period. Messrs. Bolitho have 1000 shares. The largest and firmest shareholders quite anticipate—it may be soon, or it may be in a year or so—cent, per cent, on the present market quotations, and a mine whose work and age shall emulate Dolcoath's.—*West Briton.*

At the Stock and Share Auction Company's sale on Tuesday at their sale rooms, Crown Buildings, Old Broad-street, the following were among the prices obtained:—Silver Hill Mine, 1*l.* shares, 10*s.* paid, par; Liberia Coffee, 10*l.* fully paid, 2*l.* 5*s.*; London Land Company, 25*l.* shares, 8*s.* paid, 7*l.* 10*s.*; Cranston's Nursery and Seed Company, 10*l.* fully paid, 10*s.*; Hoover Hill Gold Mining, 1*l.* fully paid, 1*l.* 19*s.*; London and District Omnibus, 10*l.* shares, 7*l.* 10*s.* paid, 6*l.* 15*s.*; French Coffee, 1*l.* shares, 10*s.* paid, 5*s.* 6*d.*; Thurns New Gas Company, 10*l.* fully paid, 4*l.* 10*s.*; Investment Registry and Stock Exchange, A, 5*s.* shares, 4*s.* paid, 5*s.* prem.; West Phoenix Mine, 25*l.*; Wheal Jewell Mine, 7*l.* 6*d.*; Wheal Jane Mine, 7*l.* 6*d.*; Gold Mining Association, Canada, 1*l.* fully paid, 1*l.* 7*s.*; Cherbad District Gold Mining, 1*l.* share, 15*s.* paid, 10*s.*; North London Suburban Tram, 5*s.* fully paid, 4*l.* 7*s.* 6*d.*

At the Stock and Share Auction Company's sale on Friday, at their rooms, Crown Buildings, Old Broad-street, the following were among the prices obtained:—Quartz Hill Gold Mining, 1*l.* shares (5*s.* 2*d.* paid), 3*s.* 7*l* 5*d.*; French Coffee (Date), 1*l.* shares, 10*s.* paid, 7*l.* 6*d.*; Carta Para Gold Mining, 1*l.* shares (5*s.* paid), 5*s.*; West Phoenix Mine, 25*l.*; Wheal Jewell Mine, 7*l.* 6*d.*; Wheal Jane Mine, 7*l.* 6*d.*; Gold Mining Association, Canada, 1*l.* fully paid, 1*l.* 7*s.*; Pioneer Mining (1*l.* fully paid), 1*l.* 10*s.*

**SUCCESSFUL MINING IN THE PYRENNES.**—The furore which set in about a year ago in the different gold mining companies of Southern India, and which have given a great stimulus to mining speculation, is likely, it is said to be eclipsed by the vast discoveries of silver-lead and zinc which have been made in the Pyrenees, and now that this chain of mountains has become accessible by railways, and English capital has been attracted thereto with most successful and profitable results, it is natural to conclude that new enterprises will be started for the further development of the vast mineral resources which exist there. The Sentein Mine may be considered the pioneer undertaking, and has yielded enormous profits to the former owners, and now that increased dressing machinery has been erected, and with good management, it will continue to yield increased profits to the present proprietors. The next great success is the Pierrefitte, which is also making very large returns of silver-lead and blende, and considerable monthly profits.

**BUFFING APPARATUS FOR MINING CAGES.**—To prevent the excessive concussion which usually takes place when the cage reaches the lower part of its travel, Messrs. L'ANSON and HUDSON, of Darlington, propose to fix one or more cylinders, fitted with pistons, at or near the bottom of the shaft or hoist in such a position that the descending cage comes in contact with or acts upon the piston rod or ram, or a plate, beam, or other contrivance in connection therewith, in such manner as to force the said piston or ram inwards, and thereby compress the air contained in the cylinder, which forms an elastic cushion or buffer, whereby the cage is arrested gradually, and excessive concussion prevented. Proper valves are provided for the admission and exit of air into and from the cylinders, and are so arranged that the amount of compression of the air can be regulated and adapted to the special requirements of the place, so as to form a cushion or buffer of any strength that may be desired. The several pistons or rams are so connected or combined that when those appropriated to

one cage are inwards the others are outwards, so as to be in position to receive the next descending cage, and this result may be produced either by connecting the rams by chains or other appliances, or by connecting the cylinders so that the air may pass from one to the other.

#### SALE OF IRON CUTTINGS AND PUNCHINGS AT THE ROYAL ARSENAL, WOOLWICH.

**THE SECRETARY OF STATE FOR WAR** is prepared to receive tenders for the purchase of such IRON CUTTINGS AND PUNCHINGS as may be FOR DISPOSAL at the Royal Laboratory, Woolwich, during the period of one year from 1st April, 1881.

Forms of tender and all information may be obtained on application to the Commissary-General, Royal Arsenal.

The tenders are to be delivered at the War Office, Pall Mall, London, S.W., by

Twelve o'clock noon on Friday, the 20th day of May, 1881, addressed to the Director of Army Contracts, and marked on the outside, "Tender for the Purchase of Iron Cuttings, &c.

**EVAN COLVILLE NEPEAN**, Director of Army Contracts, Army Contract Department, War Office, Pall Mall, S.W., 6th May, 1881.

In the High Court of Justice—Chancery Division.

**PURSUANT** to a Judgment of the High Court of Justice (Chancery Division), made in an action "AUSTIN V. MURRAY, 1881, A. 217," the PERSONS claiming to be HOLDERS of DEBENTURES issued by the GURRINGTON SLATE QUARRIES (LIMITED) are by their solicitors, on or before the 8th day of June, 1881, to COME IN and PROVE their CLAIMS at the Chambers of the Honorable Mr. Justice Fry, No. 12, Staple Inn, Holborn, in the county of Middlesex, or in default thereof they will be PEREMPTORILY EXCLUDED from the BENEFIT of the said Judgment. Wednesday, the 15th day of June, 1881, at Twelve of the clock at noon, at the said Chambers, is appointed for hearing and adjudicating upon the claims.

ALFRED RAWLINSON, Chief Clerk.

(W. H. Roberts, Solicitor, 15, Coleman-street, E.C.)

Dated this 29th day of April, 1881.

**WANTED**, an EXPERIENCED MINE CAPTAIN, TO TAKE THE MANAGEMENT OF COPPER MINES in NORWAY. Apply by letter, stating age, experience, and salary required.

Address, "A. B.," care of Messrs. Barker and Son, 6, Birch Lane, London.

**DINGLEY DELL ESTATES AND GOLD MINING COMPANY (LIMITED).**

**WANTED** AT ONCE, to PROCEED to INDIA, a MINING CAPTAIN, BLACKSMITH, and FITTER. Must be experienced, and thoroughly acquainted with the details of their respective duties.

Address, by letter, to "Secretary," Dingley Dell Estates and Gold Mining Company (Limited), 2, George-street, Mansion House, E.C.

**WANTED**, TWO HUNDRED AND FIFTY fully paid up Shares in the BWLCH UNITED MINES.

Address, with price for prompt cash against documents, "B. C.," care of Palmer, Sutton, and Co., 34, Crutched Friars, E.C.

DIAMOND MINING, SOUTH AFRICA.

**WANTED**, A GENERAL MANAGER, TO UNDERTAKE CONTROL OF MINE. Liberal salary subject to substantial guarantees, suitable qualifications, and references.

Address, with full particulars, to "Alpha," care of Messrs. J. Burbidge and Co., 62, Moorgate-street, E.C.

STEAM STAMPS.

**WANTED**, TO PURCHASE, a BATTERY of 50 or 100 heads, with suitable ENGINE, BOILERS, and all complete. Must be of the most improved description, and replete with all modern appliances.

Address, in first instance, to "H. Y., 407," Messrs. Deacons, 154, Leadenhall-street, London.

**WANTED**, a SECOND-HAND PORTABLE ENGINE, with two 14-inch cylinders. Must be in good condition.

Address, "E. G.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

ENGINE WANTED.

**WANTED**, a SECOND-HAND PORTABLE ENGINE, about 25-horse power, double cylinder, Robey's preferred. Must be in good condition.

Address, "X. Y. Z.," MINING JOURNAL Office, 26, Fleet-street, E.C., with full particulars of price, where delivered, &c.

**MINING AGENT WANTED** for a LEAD and COPPER MINE in NORTH WALES. Preference given to an active man who has worked as a Miner, and has a knowledge of Pumps and Machinery.

Address, "Mining Engineer," Post Office, Carnarvon.

**A MINING CAPTAIN SEEKS EMPLOYMENT AT HOME OR ABROAD.** Is thoroughly practical from youth, now forty-one. Has been

## COPPER SMELTING.

APPLICATION FOR SHARES IN  
THE MERSEY COPPER COMPANY  
(LIMITED)

To be made to—

JOHN FENWICK ALLEN, MERSEY COPPER WORKS, WIDNES.

Articles of Association to be seen either at the Registered Office of the Company, Hutchinson-street, Widnes, or at the office of Messrs. H. FORSHAW and HAWKINS, Solicitors, 2, Harrington-street, Liverpool. All particulars will be given at the office, Widnes, or at the Solicitors.

THE

WEST OF ENGLAND MANGANESE  
MINING COMPANY  
(LIMITED).

The Directors beg to announce that they have proceeded to the FIRST ALLOTMENT OF SHARES; and that they have appointed Capt. DOIDGE, Manager of the well-known Hogsthorpe Mines, to be their Mining Captain; and that the operations of the company have now commenced.

A FEW REMAINING SHARES may be obtained at 1s. 3d. premium on application to the Secretary.

The Directors have every reason to believe that the estimated dividend of 20 per cent. will be at least realised.

By Order, DUNCAN McDONALD, Secretary.

35, Queen Victoria-street, London, E.C., 29th April, 1881.

## £1000 REWARD.

WHO MADE SUBMERGED PROPELLER VESSELS A  
SUCCESS?

Any person who can prove that they, prior to 1838, designed, built, and successfully propelled with direct-acting engines, also made a sea voyage as far as Constantinople and back to London with 430 tons of cargo (the whole having been accomplished by the advertiser's ship, the "Novelty"), shall RECEIVE the above REWARD.

Claims to be sent before the 20th May, 1881, to H. WIMSHURST, Ratcliffe Cross Dry Dock, Stepney, London, E.

The original block, also the built model of the patented improved afterbody of the vessel, are at South Kensington Naval Gallery.

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Apply to MARSH, MILNER, and Co., Land Agents, 54, Cannon-street, London, E.C., who have inspected.

FOR SALE, SILVER-LEAD MINE, adjoins OLD RICH DIVIDEND PROPERTIES. BEST LEAD DISTRICT IN CORNWALL.

Address, "Consols," MINING JOURNAL Office, 26, Fleet-street, London.

GOLD MINING ENGINEER WANTED.—A GOLD MINING ENGINEER is required to GO ABROAD immediately to MANAGE some GOLD MINES now in operation.

Absolute practical experience in Gold Mines essential. Apply, with references and full particulars, to "N. C." care of Messrs. Kensington and Co., 2, George-street, Mansion House, E.C.

A N EXPERIENCED AND PRACTICAL MINING CAPTAIN AND ENGINEER desires a RE-ENGAGEMENT, at home or abroad. Holds good testimonials and understands Spanish.

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A N ENGLISH MINING ENGINEER AND CHEMIST, at present resident in the United States, will EXAMINE and REPORT ON MINES AND MINING PROPERTIES. Has had a number of years practical experience in most of the principal Gold and Silver Mining Districts of the West, and is fully acquainted with the best systems of Reduction and Smelting in use, and the actual cost of working. Has passed the sanguine stage of Mining, and is accustomed to base calculations on facts only. Good London references.

For address and particulars, apply at the Railway News Office, 3, Whitefriars-street, Fleet-street, E.C.

A PRACTICAL MINING AGENT, 36, holding good certificates for machinery, desires EMPLOYMENT where he could make himself generally useful. Drawing, Dialing, Assaying, French, and German. Worked nine years underground.

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VALUABLE MINES OF TIN AND SILVER-LEAD  
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ONE OR TWO MOST VALUABLE SETTS FOR SALE.—Samples of the ore can be seen. Most liberal dues.

To treat for same, apply to W. PAYNTER, Jun., Wadebridge.

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GUAYANA, VENEZUELA.

COUPONS OF SHARES..... 322

Gold in bars produced in the month of March, 1881, and remitted to Messrs. Baring Brothers and Co., London, 480-45 ozs.

DIVIDEND distributed for each coupon, \$100.

(Signed) A. LICCIONI, President.

(Signed) VICTOR T. GRILLET, Treasurer.

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Geological examinations; reports on mining properties; surveys mines, railroads, and canals, and superintends the workings of the same; prepares estimates and plans for opening and working mines. Expert on mining questions before the Courts. Address, P.O. Box 1157, Salt Lake City, Utah.

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Have Agents in the various Mining Districts of Great Britain, the Continent, Australia, and the United States of America.

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PURCHASES and SALES of MINING PROPERTY effected, with careful regard to the interests of clients.

S O W AND REAP will be published on the 31st instant containing reliable information on MINING, BRITISH AND FOREIGN STOCKS AND SHARES, and financial operations for the month, Gold Mining in India.

Forwarded Post Free for 1½ stamp by THOMPSON and SON, Plymouth.

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SALE of a very valuable and important FREEHOLD ESTATE, comprising the newly and substantially erected Residence, known as BRONCOED HOUSE, with commodious Farm Buildings, Foreman's House, and 46 Cottages, and about 116 acres of Freehold Land, in a ring fence, together with the well-known OAK PITS COLLIERY.

Fully opened out, with all the very extensive erections, valuable PLANT and FIXED MACHINERY, Branch Railway, &c., belonging thereto, and including the Lessee's interest in the COALS and OTHER MINERALS under a large extent of land immediately adjoining.

M E S S R S. CHURTON, ELPHICK, AND CO., have received

instructions TO SELL BY AUCTION, at the Black Lion Hotel, Mold, on Tuesday, the 17th day of May, 1881, at Two for Three o'clock P.M., punctually, in One Lot, and subject to conditions, the above-mentioned very valuable ESTATE and COLLIERY.

Plans and particulars may be obtained from the undermentioned 10 days prior to the sale, and in the meantime any further information may be had on application to Messrs. KELLY and KEENE, Solicitors, Mold; GEORGE BELLIS, Esq., Surveyor, Mold; SIMON HUGHES, Esq., 98, Duke-street, Liverpool; or to the Auctioneers, Chester.

SPARE MACHINERY AND MATERIALS FOR SALE, BY PRIVATE CONTRACT, at GOOLE PELLAS MINES, St. Ives, Cornwall, ONE 40 in. PUMPING ENGINE, new cylinder, spring ring, &c., with or without BOILERS.

ONE 30 in. STAMPING ENGINE, wrought-iron shaft, TWO FLY-WHEELS.

ONE 24 in. WINDING ENGINE, complete; and a 22 in. ditto.

Sundry BOILERS, in first-class condition, from 11 tons down to 7 tons.

Large balance and angle bobs, nearly new; new and lofty shaft tackles; dry tubes; 200 fms. of 3/4 in. mild steel wire rope—new from maker, never used; a large quantity of pitwork, from 10 in. down to 6 in.; new plunger poles, from 10 in. down to 7 in.; strapping plates, various sizes; a large quantity 2 ft. shives; and other materials in general use in mines.

For particulars and prices, apply to Capt. BUGELHOLE, West Providence Mines, St. Ives, Cornwall.—Dated May 2, 1881.

M I N I N G M A C H I N E R Y A N D M A T E R I A L S  
FOR SALE, at ST. IVES CONSOLS MINE.

ONE 20 inch DOUBLE-ACTING WINDING ENGINE and 10 tons BOILER.

ONE 11 tons BOILER and FITTINGS.

ONE 9 tons ditto

ONE 8 tons ditto

ONE 5 tons ditto, without fittings.

ONE 18 inch POLE, POLE CASE, STUFFING BOX, and GLAND.

FOUR 18 inch 9 feet PUMPS.

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About 80 fathoms of 9 inch and 8 inch PUMPS.

Several sets of STRAPPING PLATES, various sizes.

400 fathoms of 9-16th inch CHAIN.

TRAM SADDLES, &c.

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April 20, 1881.

S T O N E B R E A K E R S A N D C R U S H I N G M A C H I N E R Y  
for REDUCING to any degree of fineness all kinds of ORES, QUARTZ, COAL, CEMENT, PAINT, &c.

Particulars and specifications on application to "Quartz," MINING JOURNAL Office, 26, Fleet-street, London.

F O R S A L E O R H I R E, ONE HUNDRED to TWO HUNDRED

or MORE 3½ and 4-yard END TIP WAGONS; also several 8-in. cylinder TANK LOCOMOTIVES, and other Contractor's Plant, equal to new.

Apply, JOHN DICKSON, Jun., or A. C. BETTS, New North Works, Bootle, near Liverpool.

F O R S A L E, a SEMI-PORTABLE PIT SINKING, COAL WINDING, and PUMPING ENGINE, double 9½ in. cylinder, fitted with link-motion reversing gear, mounted on a multitubular boiler, with

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## E A S T W H E A L R O S E (L I M I T E D).

NOTICE OF DIVIDEND.—Notice is hereby given, that the DIVIDEND for the FIRST THREE MONTHS, at the rate of SEVEN PER CENT. per annum (guaranteed by the vendors), will be PAYABLE at the offices of the company on Tuesday, the 24th inst., or upon any subsequent Tuesday or Thursday between the hours of 2 and 4 o'clock P.M., upon production of share certificates.

By order, F. HUTLEY, Secretary.

Registered Offices—8, Old Jewry, London, E.C.

R I C H M O N D C O N S O L I D A T E D M I N I N G C O M P A N Y  
(L I M I T E D).

Capital £270,000 in 54,000 shares of £5 each.

TWENTY-SEVENTH DIVIDEND.

Notice is hereby given, that the directors of the above company have THIS DAY DECLARED a DIVIDEND of TEN SHILLINGS PER SHARE, free of income-tax, payable on and after the 7th day of May instant at the Company's Bankers, the Union Bank of London, Princes-street, E.C.; and notice is hereby given, that the Transfer Books of the company will be closed on 6th and 7th instant.

By order of the Board, HUBERT ACKERS, Secretary.

Offices, 44, Coleman-street, London, E.C., 3rd May, 1881.

N O U V E L L E M O N T A G N E C O M P A N Y.—The DIVIDEND for the YEAR 1880 will be PAYABLE as follows:—

1.—On the 30th June next, FIFTY FRANCS per whole share, coupon No. 32, and TEN FRANCS per fifth of share, coupon No. 49.

2.—On the 31st December next, FIFTY FRANCS per whole share, coupon No. 33, and TEN FRANCS per fifth of share, coupon No. 50.

The payments in France will take place at Messrs. Hentsch, Lutcher, and Co., Bankers, Rue Lepelletier, at Paris, and in London the coupons for encashment may be presented to Messrs. Devaux and Co., 62, King William-street, E.C.

Directeur Général de la Société, V. BOUCHY.

Engis, 28th April, 1881.

N O U V E A U M O N D E G O L D M I N I N G C O M P A N Y.—Capital £200,000, in 200,000 Shares of £1 each.

Notice is hereby given, that in compliance with the requisition of the Stamps Department of the French Government, the OLD SHARES of this company, bearing numbers from 1 to 200,000 (both numbers inclusive), issued in 1881, are to be CANCELLED and EXCHANGED for NEW SHARES, bearing numbers from 200,001 to 400,000.

The exchange will take place from the 15th day of May next at the head office of the company, 62, Rue de Provence, Paris, or at the London Agency, Lombard House, George-yard, Lombard-street, free of any fee or charges.

On and after the above date the New Shares only will be recognised by the company in respect of the payment of dividends, and entitle the holders thereof to attend the General Meeting of the Company.

Dated this 30th day of April, 1881.

T H E E B E R H A R D T C O M P A N Y  
(L I M I T E D).

Notice is hereby given, that the FIRST GENERAL MEETING of the shareholders of this company will be HELD at the company's offices, 15, Angel Court, E.C., in the City of London, on WEDNESDAY, the 11th day of May, 1881, at 2 o'clock, P.M.

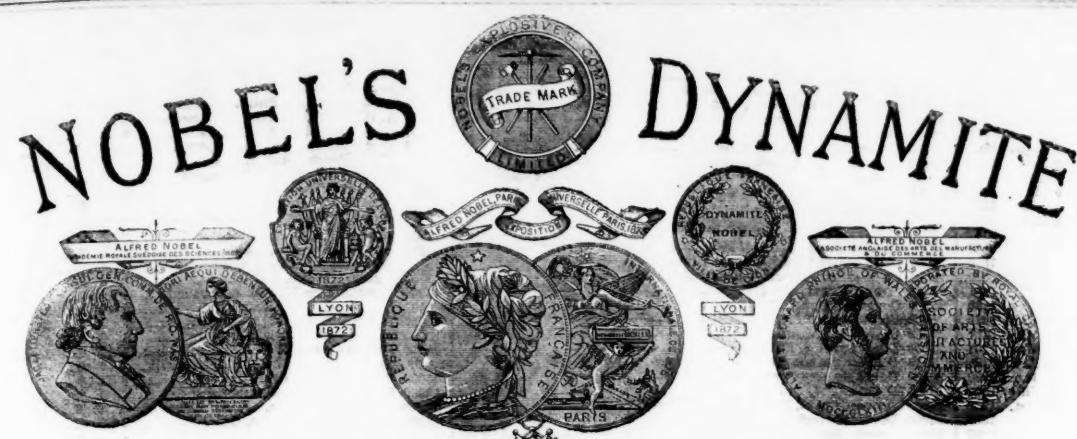
This meeting will be merely formal, being called in compliance with the Companies' Acts, which require the first meeting to be held within four months after registration.

By Order, W. R. WRIGHT, Secretary.

T H E C O L A R G O L D M I N I N G C O M P A N Y  
(L I M I T E D).

The Directors hereby give notice that the TRANSFER BOOKS of the company will be CLOSED from FRIDAY, the 13th, to SATURDAY, the 21st of May inclusive.

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Manufactured and sold by  
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ALBERT RICKETTS, Dean-lane, Bedminster, Bristol.  
B. READ, Reforme, Portland, Dorsetshire.  
LEIGH and SILLAVAN, Barton House, 66, Deansgate, Manchester.  
GEORGE ROBERTS, George-street, Gloucester.  
J. H. BEAN and CO., 6, Albion-street, Leeds.  
WM. RICH and SONS, 4, Basset-street, Redruth, Cornwall.  
CROSS BROTHERS, 21, Working-street, Cardiff.  
G. WILLIAMS, 6 and 7, Baker-street, Aberystwyth.  
WEBB and CO., Llanberis, Caernarvon.  
J. T. EACHUS, Holywell.

JOHNSON and CO., Tower-street Dudley.  
TODHUNTER and ELLIOT, Market-place, Douglas, Isle of Man.  
ROBERT HAMILTON, 29, St. James-square, Edinburgh.  
JOHN DONALD, 4, Belmont-street, Aberdeen.  
WILLIAM WATSON, Sunnyside-road, Coatbridge.  
ROBERT HAMILTON, Douglas-street, Dunfermline.  
JOHN D. M'JANNET, Park-place, Sterling.  
GEORGE STEPHEN and SON, Castle-street, Dundee.  
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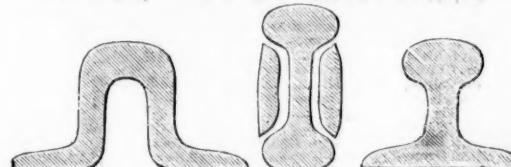
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house prices. As to care taken in reporting, reference is made to the *Mining Journal*  
Supplement, April 1, 1878, containing a report on property of the Maxwell Land  
Grant and Railway Company; as to technical standing, to the prominent men of  
the trade—compare *Mining Journal* of Aug. 30 and Nov. 31, 1872, and *New York*  
*Engineering and Mining Journal*, Feb. 28, 1874.

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<i>Shares.</i>		<i>Paid.</i>	<i>Last wk.</i>	<i>Clos. pr.</i>	<i>Total divs.</i>
3939 Blue Hills, <i>t</i> , St. Agnes	.....	4 6 6	3 4	3 4	0 4
1'000 Caron, <i>t</i> , Cardigan*	.....	2 0 0	2	1 2	0 4
6'000 Carn Brea, <i>c</i> , Illogan	.....	9 7 11	21	21 22	51 11
10'240 Devon Gt. Consols, <i>c</i> , <i>a</i> , Tavistock*	.....	1 0 0	12 12	11 12	118 7
4'296 Dolcoath, <i>c</i> , Camborne	.....	10 14 10	56 56	56 57	120 11
6'400 East Pool, <i>t</i> , Illogan	.....	9 9 9	38	38 39	22 17
12'500 Froncog, <i>t</i> , Cardigan (1000 sh. sh.s.)	.....	2 0 0	4 4	4 4	0 4
40'000 Glasg. Car., <i>c</i> , *30000sh. £1 pd.	10'000 158 pd.	1 1	1 1	0	0 13 10
8'500 Gorsedd and Merliny Con., <i>t</i> , Flint	.....	2 10 0	3 4	3 3	0 5 0
1'000 Great Laxey, <i>t</i> , Isle of Man*	.....	4 0 0	18	17 18	27 0
6'400 Green Hurth, <i>t</i> , Durham*	.....	0 6 0	7 4	7 7 4	2 16 0
20'000 Grogwinion, <i>t</i> , Cardigan	.....	2 0 0	2 4	2 3	0 16 4
10'240 Gunnislake (Clitters), <i>t</i> , <i>c</i>	.....	2 2 0	4 4	4 4	0 15 9
2'800 Isle of Man, <i>t</i> , Isle of Man*	.....	25 0	0	—	83 5 0
20'000 Leadhills, <i>t</i> , Lanarkshire	.....	6 0 0	2 14	2 2 14	0 15 0
400 Liburne, <i>t</i> , Cardiganshire	.....	18 15 0	—	—	607 10 0
10'000 Mellanear, <i>c</i> , Hayle*	.....	2 0 0	5 4	4 4	1 6 0
9'000 Minera Mining Co., <i>t</i> , Wrexham*	.....	5 0 0	9	8 8	59 0 0
20'000 Mining Co. of Ireland, <i>c</i> , <i>c</i> , <i>t</i> *	.....	7 0 0	3 4	2 2 3 4	24 0 0
8'000 Mona, <i>c</i> , Anglesey	.....	5 0 0	13	12 13	0 10 0
5'232 North Busy, <i>c</i> , Blackwater	.....	0 10 8	3 4	3 4	0 3 4
11'829 North Hendre, <i>t</i> , Wales	.....	2 10 0	5	4 5	3 10 0
8'146 Ditto	.....	1 5 0	3	2 14	0 7 0
2'000 North Levant, <i>t</i> , St. Just	.....	13 6 0	6	5 6	4 16 0
5'000 Penhalls, <i>t</i> , St. Agnes	.....	3 17 6	2	1 12	3 17 0
6'000 Pennant, <i>t</i> , bar, North Wales*	.....	5 0 0	5	4 5	0 10 0
12'090 Phoenix United, <i>t</i> , c, Link	.....	5 10 3	3 4	3 3	17 0 0
18'000 Pr. Patrick, <i>s</i> , <i>t</i> , (als. 12000pf. 10 p.c.)	.....	1 0 0	—	—	0 13 6
10'000 Red Rock, <i>t</i> , Cardigan	.....	2 0 0	0	—	0 4 0
12'000 Roman Gravels, <i>t</i> , Salop*	.....	7 10 0	13	12 13	8 6 0
4'000 Rhylhead, <i>s</i> , Wales	.....	10 0	—	—	0 5 0
5'12 South Cardon, <i>c</i> , St. Cleer	.....	1 5 0	67 1	57 1	62 1 2 749 0 0
6'123 South Conduor, <i>c</i> , Camborne*	.....	6 5 6	9 4	9 4	8 7 0
9'000 South Darren, <i>t</i> , Cardigan*	.....	16 0	1	1 12	0 4 0
4'500 South Wheal Frances, <i>t</i> , Illogan	.....	7 12 4	10 1	10 1	40 15 6
11'0000 Tankerville Gt. Consols, <i>t</i> , Salop*	.....	1 0 0	4	3 4	0 16 3
6'000 Tincroft, <i>c</i> , Pool, Illogan*	.....	11 10 0	18	13 18	50 13 6
15'000 Van, <i>t</i> , Llanidloes	.....	4 5 0	8	7 1	8 25 3
3'000 West Oliverton, <i>t</i> , Perranzabuloe*	.....	20 12 5	36	3 4	55 10 0
5'12 West Tolgus, <i>c</i> , Redruth	.....	95 10	0	35	30 35
12'000 West Wheal School, <i>c</i> , Camborne*	.....	10 20	0	23	21 23
6'000 West Basset, <i>c</i> , Illogan	.....	7 0	4	15	14 14 27 7 0
12'000 Wheal Crebor, <i>c</i> , Tavistock	.....	2 4 0	4 4	3 4	0 10 3
10'242 Wheal Eliza Consols, <i>t</i> , St. Austell	.....	18 0	0	9	8 8 40 0
6'000 Wheal Grenville, <i>t</i> , Camborne	.....	15 0	0	9	2 2 4 7 0
4'295 Wheal Kitty, <i>t</i> , St. Agnes	.....	5 4 6	2 3	2 2 2 4	12 18 6
3'000 Wheal Peveril, <i>t</i> , Redruth	.....	7 11 0	19	17 18	7 18 6
<b>FOREIGN DIVIDEND MINES.</b>					
35'500 Alamillos, <i>t</i> , Spain*	.....	2 0 0	1 14	3 4 14	2 2 9
13'000 Almada and Tirito Consols, <i>s</i> †	.....	1 0 0	3 2	3 4 3 2	0 6 3
20'000 Australian, <i>c</i> , South Australia	.....	7 7 6	1 14	1 14	1 5 6
15'000 Bardsley Creek, <i>g</i> , California*	.....	4 0 0	2	1 12	0 16 0
20'000 Cape Copper Mining, <i>t</i> , South Africa	.....	2 0 0	44	41 43	41 7 6
35'000 Cesena Sulph. Co., Romagna, Italy*	.....	10 0	0	—	1 1 0
50'000 Copiapo, <i>c</i> , Chile* (44 shares)	.....	3 8 0	2	2 2	2 2 2 2
23'500 Eberhardt and Aurora, <i>s</i> , Nevada*	.....	10 0	0	3 2	3 3 2
70'000 English & Australian, <i>t</i> , c, S. Aust.*	.....	20 10	0	1 12	1 12 1 12
25'000 Fortune, <i>t</i> , Spain*	.....	2 0 0	5	4 5	0 7 7
60'000 Fratino, <i>t</i> , Bolivia, <i>g</i> , New Gran.*	.....	2 0 0	5	4 5	0 8 0
20'000000 La Plata, <i>t</i> , Lendvilledi	.....	2 0 0	1 14	1 14	1 14 1 14
15'000 Linhart, <i>t</i> , Spain*	.....	3 0 0	0	6 5	5 6 5
66'000 New Quebec, <i>c</i> , Venezuela*	.....	5 0 0	0	5 2	0 2 6

## NON-DIVIDEND BRITISH MINES.

<i>Shares.</i>		<i>Fund.</i>	<i>Last w.</i>
30,000	Alston United,* <i>t</i> , Cumberland	1 0 0	3
12,000	Ashton, <i>t</i> , Carnarvonshire*	5 0 0	3
10,000	Autumnic,* <i>s</i> , <i>t</i> (res. shares 28,000) ...	1 0 0	—
36,000	Basset & Buller Cons.,* <i>s</i> , Illogan	1 0 0	—
11,583	Bedford Unit.,* <i>s</i> , Tavistock (1 lb.)	0 8 0	23
8,000	Blaen Caelan,* <i>t</i> , Cardigan	3 0 0	—
30,000	Boddiridur,* <i>t</i> , b <i>h</i> , Denbighshire	1 0 0	15
10,000	British, *s, Wrexham	2 0 0	—
20,000	Bwlch United,* <i>t</i> , Cardigan	1 0 7 6	33
50,000	Cambrian,* <i>s</i> , <i>t</i> , Cardiganshire	2 0 0	—
6,000	Carn Camborne, * <i>t</i> , <i>c</i> , Camborne	0 8 0	31
21,000	Carnarvon,* <i>s</i> , Carnarvonshire	1 0 0	15
6,000	Cathedral Cons.,* <i>s</i> , Gwynnaff	0 5 0	11
29,000	Central Foxdale, * <i>t</i> , of Man (2 <i>l</i> , sh.)	1 17 6	—
25,000	Coad Mawr Pool,* <i>t</i> , Carnarvon	2 0 0	—
25,000	Coed-y-Fedw+Pant-y-Buarth, * <i>t</i> , Mold	1 0 0	13
2,450	Cook's Kitchen, * <i>t</i> , Illogan†	3 0 4	123
15,500	Court Grange United,* <i>s</i> , * <i>t</i>	1 0 0	—
6,400	Crook Burn, * <i>t</i> , Cumberland	0 10 0	—
14,000	Crosswood Mining Lands, * <i>t</i>	1 0 0	—
2,000	Deep Level, * <i>t</i> , Flintshire	1 0 0	—
1,538	D'Eresby Mountain, * <i>t</i> , Llanrwst	20 0 0	50
20,000	Denbighshire Consolidated,* <i>t</i> ...	3 0 0	3
12,000	Derwen,* <i>t</i> , Durham	4 0 0	2
100,000	Devon, * <i>s</i> , <i>b</i> , Tavistock (151,522 iss.)	1 0 1	15 0
60,000	Devon Friendship,* <i>t</i> , Tavistock	1 0 0	11
12,000	Devon Great United* (2 <i>b</i> , shares) ...	1 0 0	25
20,000	Devonshire,* <i>s</i> , Lydford	1 0 0	14
50,000	Dreakewells, * <i>t</i> , Calstock	1 0 0	—
10,000	Dubby Syke, * <i>t</i> , Durham	0 19 6	3
12,000	East Blue Hills, * <i>t</i> , St. Agnes	0 5 0	34
8,000	East Fullatock, * <i>t</i> , St. Just	0 8 0	—
6,144	East Caradon, * <i>s</i> , St. Cleer†	3 14 6	15
4,000	East Chiverton, * <i>t</i> , Perranzabuloe	9 19 9	—
30,000	E. Craven Moor,* <i>s</i> , Pateley Bridge	1 0 0	1
12,000	East Crebior, * <i>t</i> , Tavistock	0 10 0	—
15,000	East Devon Cons.,* <i>s</i> , Buckfastleigh	2 0 0	—
12,000	East Herdofoot, * <i>s</i> , Liskeard	nil.	—
20,000	East Long Rake,* <i>t</i> , Wales	1 0 0	—
21,000	East Roman Gravels,* <i>t</i> , Salop	0 15 0	1
18,000	East Van, * <i>t</i> , Llanidloes*	5 0 0	2
4,036	East Wheal Buller, * <i>t</i> , Gwynnaff...	0 10 0	3
2,098	East Wheal Lovell, * <i>t</i> , Helston	14 3 6	—
10,000	East Wheal Rose,* <i>s</i> , Newlyn East	1 0 0	—
10,000	Fortescue (Stannagwynn,* var)	1 0 0	21
12,000	Gawton,* <i>t</i> , Tavistock (2 <i>l</i> , shares)...	1 14 0	15
14,000	Glenroy,* <i>s</i> , Isle of Man	4 0 0	—
30,000	Gobbett,* <i>t</i> , Dartmoor	1 0 0	—
10,000	Goddards, * <i>t</i> , Carnarvon	1 0 0	—
2,505	Goodevere, * <i>t</i> , St. Cleer	1 0 0	13
20,000	Griffin,* <i>s</i> , Carnarvon	1 0 0	—
25,000	Great Consols, * <i>t</i> , St. Austell	1 0 0	—
20,000	Great Dyllyffe* (10,000 sh. issued)	1 0 0	51
12,000	Great Holway,* <i>t</i> , Flintshire	5 0 0	—
1,00,000	Great Polgoon United,* <i>t</i>	1 0 0	1
6,000	Great West Chiverton, * <i>t</i> , St. Agnes	4 0 0	5
10,000	Gwern-y-Mynydd,* <i>s</i> , Flintshire	4 0 0	—
7,000	Gwydir Amal,* <i>t</i> , <i>b</i> , Carnarvon ...	0 15 0	—
6,400	Harwood,* <i>t</i> , Durham	0 8 9	—
12,000	Herdofoot, * <i>t</i> , near Liskeard	0 11 0	14
13,000	Hington Down, * <i>t</i> , Calstock*	0 11 0	—
20,000	Kirkmichael,* <i>t</i> (2000 unissued) ...	1 0 0	1
6,000	Killifirth, * <i>t</i> , Chacewater	0 15 0	—
25,000	Kit Hill Gt. Cons.,* mrs-m, (2 <i>l</i> , sh.)	0 15 0	1
15,000	Lady Ann, * <i>s</i> , Lismore	1 0 0	—
30,000	Lady Ashburton,* <i>s</i> , Callington	1 0 0	—
15,000	Lady Bertha,* <i>c</i> , Tavistock	0 17 6	—
5,000	Lead Era, * <i>t</i> , Mold	2 10 0	—
2,500	Levant, * <i>t</i> , St. Just	11 0	8
15,000	Llandegla,* <i>t</i> , Wales	1 0 0	1
10,000	Lomax,* <i>s</i> , Helston	1 0 0	—
5,120	Lovell, * <i>t</i> , Wendron	0 15 0	1
9,000	Marke Valley, * <i>c</i> , Linkinhorne*	5 19 6	—
18,000	Mawston,* <i>s</i> , South Wales	1 0 0	—
6,000	Medlyn Moor, * <i>t</i> , Wendron	3 15 10	—
28,000	Mid-Devon,* <i>c</i> (& 17000, 3 <i>s</i> , 4 <i>d</i> , pd.)	0 6 8	—
15,000	Monksdown, * <i>m</i> , Devon	2 0 0	2
20,000	Mostyn Consols,* <i>s</i> , Flint	1 0 0	—
10,000	Mynnyd Gorddu, * <i>t</i> , Cardigan*	3 12 6	3
25,000	Moray Firth (1800 issued) ...	2 0 0	—
12,000	Morla, * <i>t</i> , z, g, Anglesea*	1 0 0	1
6,144	Mount Carbis, * <i>t</i> , C. Redruth	0 10 0	2
2,000	New Cook's Kitchen, * <i>t</i> , Illogan	7 14 0	6
8,000	New Dolcoath, * <i>t</i> , c, Camborne*	3 0 0	—
10,000	New Holm bush,* <i>t</i> , c, Callington	2 0 0	2
6,000	New Kitty, * <i>t</i> , St. Agnes	0 5 6	1
12,000	New Penrose,* <i>t</i> , c, Helston (1 <i>l</i> , sh.)	0 10 0	1
3,500	New Tinncroft,* <i>t</i> , Lelant	6 0 0	—
2,000	New Trumpet, * <i>t</i> , Wendron	0 10 0	3

**NON-DIVIDEND MINES—*continued.***

<i>Shares.</i>		<i>Paid.</i>	<i>Last wk.</i>	<i>Cor. pr.</i>
12000 New West Caradon, <i>c.</i> , Liskeard	1 0 0	3	56	1/2 1/2
3000 New Wheal Peevor, <i>t.</i> , Redruth	0 10 0	23	1/2 1/2	1/2 1/2
35000 New Wye Valley, <i>t.</i> , Montgomery.	0 10 0	1/2	1/2	1/2 1/2
20000 North Alfred, <i>c.</i> , Phillack	0 10 0	1/2	1/2	1/2 1/2
10000 N. D'Erresby Mount, <i>* t.</i> , Carnarvon.	1 0 0	1/2	1/2	1/2 1/2
12000 North Herodsfoot, <i>t.</i> , Liskeard	0 6 8	28	1/2	1/2 1/2
50000 North Molton, <i>c.</i> , <i>mn.</i> , Devon.	1 0 0	—	—	—
6000 North Penstruthal, <i>t.</i> , c. Gwennap.	1 8 8	1/2	1/2	1/2 1/2
2936 North Tresekerry, <i>c.</i> , St. Agnes	8 17 10	—	—	—
8000 Northern, <i>t.</i> , Durham	1 0 0	1/2	1/2	1/2 1/2
40000 Okel Tor, <i>* t.</i> , c. Calstock	1 0 0	1/2	1/2	1/2 1/2
83000 Old Shepherds <i>s-l.</i> , Cornwall	0 5 0	1	—	1/2 1/2
12000 Pandora, <i>* t.</i> , Carnarvon.	2 0 0	—	1/2	1/2 1/2
11612 Pant-y-Mwynn, <i>* t.</i> , Mold	2 0 0	23	1/2	1/2 1/2
45000 Parrys Corporation, <i>c.</i> , Anglesey	1 0 0	—	1/2	1/2 1/2
7500 Pateley Bridge, <i>t.</i> , Yorkshire	1 0 0	—	1/2	1/2 1/2
15000 Ditto (also 7500 sh. not issued)	0 19 0	—	—	—
8000 Pedn-an-area, <i>t.</i> , Redruth	1 11 0	—	34	3/4 3/4
6000 Pendavore United, <i>c.</i> , Camborne	8 0 0	6	4	4 4
12000 Pen-yr-Orsedd, <i>* t.</i> , Flintshire	1 0 0	1/2	1/2	1/2 1/2
15000 Perran Consols, <i>s-l.</i>	1 0 0	1/2	1/2	1/2 1/2
10000 Pioneer, <i>s.</i> , Wales	1 0 0	—	—	—
10000 Polrose, <i>t.</i> , Cornwall	0 11 0	1	—	1/2 1/2
10000 Port Nigel, <i>* s-l.</i> , Carnarvonshire	2 0 0	24	1/2	1/2 1/2
6000 Prince Royal, <i>t.</i> , c. <i>mn.</i> , St. Agnes	1 0 0	6	1/2	1/2 1/2
12000 Prince of Wales, <i>c.</i> , Calstock	0 10 0	1	—	1/2 1/2
30000 Silver Hill, <i>* t.</i> , Callington	1 0 0	—	1/2	1/2 1/2
40000 Sorridge, <i>* c.</i> , Horrabridge	1 0 0	—	1/2	1/2 1/2
50000 So. Cambrian, <i>* t.</i> , Cardiganshire	1 0 0	—	1/2	1/2 1/2
30000 South d'Erresby Mountain, <i>* t.</i>	1 0 0	—	1/2	1/2 1/2
35000 So. Devon Unit, <i>* c.</i> , Buckfastleigh	1 0 0	1/2	1/2	1/2 1/2
6000 South Penstruthal, <i>t.</i> , c. Gwennap.	1 7 8	3	—	23/2 23/2
6000 South Roskear, <i>t.</i> , c. Camborne	8 5 0	1	—	1/2 1/2
6000 South Tolcarne, <i>t.</i> , c. Camborne	4 4 0	—	—	1/2 1/2
40000 South Wheal Creborth, <i>* c.</i> , Tavistock.	1 0 0	1/2	1/2	1/2 1/2
2943 South Wheal Crofty, <i>c.</i> , Illogan	13 17 0	9	9	9 9 1/2
4000 St. Just United, Cornwall	2 10 0	—	—	—
40000 Tamar, <i>s-l.</i> , Boveyton*	1 0 0	—	1/2	1/2 1/2
8400 Teesdale, <i>* t.</i> , Durham (pref.)	1 0 0	—	1/2	1/2 1/2
20000 Tin Hill, <i>* t.</i> , Stephens.	1 0 0	23	24	24 24
10000 Temple, <i>* t.</i> , Cardigan	1 0 0	—	1/2	1/2 1/2
12000 Trevine Consols, <i>t.</i> , c. Gwennap	0 5 0	1/2	1/2	1/2 1/2
60000 Truro, <i>c.</i> , St. Columb	0 8 0	—	1/2	1/2 1/2
10000 Tyn-y-Fron, <i>* t.</i> , Cardiganshire	1 0 0	1/2	1/2	1/2 1/2
11000 Un. Van. & Glym, <i>* t.</i> (41500 other sh.)	2 0 0	—	—	—
1000 Vaughan, <i>* t.</i> , Cardiganshire	10 0 0	—	—	—
13000 Victor, <i>* t.</i> , Ciloein, Flintshire	0 11 0	—	—	—
20000 Walkham United, <i>* t.</i> , c. Tavistock	1 0 0	—	1/2	1/2 1/2
12000 West Ashtonet, <i>t.</i> , Carnarvon	1 0 0	—	1/2	1/2 1/2
12000 West Cadron, <i>c.</i> , St. Cleer	0 4 9	1	—	1/2 1/2
3000 W. Craven Moor, <i>t.</i> , Pateley Bridge*	10 0	—	—	—
12000 West Creborth, <i>c.</i> , Tavistock	0 5 0	—	1/2	1/2 1/2
10240 West Devon Consols, <i>c.</i> , Calstock	1 0 0	1/2	1/2	1/2 1/2
10000 West Godolphin, <i>t.</i> , Breage	0 10 0	—	23/2	23/2 23/2
12000 West Holway, <i>* t.</i> , Flintshire	1 0 0	2	—	1/2 1/2
6000 West Kitty, <i>t.</i> , St. Agnes	0 12 0	—	4%	—
20000 W. Lisburne, <i>* t.</i> (16. sh.), Cardigan.	1 0 0	—	1/2	1/2 1/2
3000 West Mary Ann, <i>t.</i> , Menheniot	1 5 0	—	1/2	1/2 1/2
20000 West Pateley Bridge, <i>* t.</i> , Yorkshire	1 0 0	—	1/2	1/2 1/2
12000 West Phoenix, <i>t.</i> , Cardarvon.	0 6 8	—	1/2	1/2 1/2
6000 West Polbreen, <i>* t.</i> , St. Agnes	0 2 0	1/2	1/2	1/2 1/2
5190 West Poldice, <i>s-l.</i> , St. Day.	5 5 0	—	4%	4 4 1/2
10000 West Vor, <i>* t.</i> , Helston	2 0 0	2	—	1/2 1/2
2048 West Wheal Heston, <i>t.</i> , Illogan	29 3 6	—	103/2	115/2 115/2
3000 West Wheal Peevor, <i>t.</i> , Redruth	2 10 0	6	15/2	15/2 15/2
12000 West Wye Valley, <i>* t.</i> , Montgomery.	3 0 0	—	34	1/2 1/2
6000 Wheal Agar, <i>c.</i> , Illogan	14 6 8	6	11/2	11/2 11/2
6144 Wheal Basset, <i>c.</i> , Illogan	5 8 0	7	8	8 8 1/2
3000 Wheal Boys, <i>t.</i> , Redruth	0 18 0	21	24	24 24
12000 Wheal Coates United, <i>* t.</i> , St. Agnes	0 15 0	—	1/2	1/2 1/2
2585 Wh. Comf., & No. Tres., <i>t.</i> , c. Gwennap	2 2 0	4	—	3/2 4
15000 Wheat George, <i>* t.</i> , Carnarvon	1 0 0	—	1/2	1/2 1/2
12288 Wheat Jane, <i>t.</i> , Kea!	1 5 8	—	7%	5 5 1/2
12000 Wheat Jewell, <i>c.</i> , St. Hilary	0 11 0	—	—	3 3 1/2
25000 Wh. Hony & Trelawny, <i>s-l.</i> , Liskeard	2 0 0	—	24	24 24
12000 Wheat Luskey, <i>t.</i> , Callington	0 1 0	—	6%	5 5 1/2
2000 Wheat Owles, <i>t.</i> , St. Just	7 3 0	—	—	—
6000 Wh. Prussia, & Cardrew, <i>t.</i> , Redruth	1 10 0	—	24	24 24
12000 Wheat Russell, <i>c.</i> , Tavistock	2 1 6	—	—	—
6000 Wheat Sisters, <i>t.</i> , Lelant	3 0 0	—	2	1/2 1/2
4096 Wheat Uny, <i>t.</i> , c. Redruth	15 16 0	3	2	2 2 1/2
4000 Ystwith, <i>* t.</i> , Cardigan	1 0 0	—	1/2	1 1/2

NON-DIVIDEND FOREIGN MINES; FOREIGN AND MISCELLANEOUS STOCKS; TRAMWAYS; INSURANCE COMPANIES; GAS, IRON AND COAL, WAGON COMPANIES, &c.

#### NON-DIVIDEND FOREIGN MINES.

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FOREIGN AND MISCELLANEOUS STOCKS	Closing prices
Argentine, 1868, 6 per cent.	99 100
Bolivian, remittants.....	2½ 3
Brazilian, 1865, 5 per cent.	98 100
Chilian, 1866, 7 per cent.	106 108
City of Melbourne, 5 per cent., 1896-1907.....	108 106
City of Ottawa, 6 per cent. Sterling .....	109 111
City of Providence, 5 per cent. coupon bonds.....	1/7 109
City of Quebec 6 p. cent. Con. Fnd. Stg. Loan.....	113 115
City of Toronto, 6 p. ct. Stg. Bnds. 1897-1904.....	113 115
Egyptian Government pref.	98 98½
Ditto, Unified Debt.....	77 77½
Ditto, K. Dairi Sanieh .....	77 78
Foreign and Colonial Gov. Trust, preferred.....	112 114
Ditto, 5 per cent., deferred .....	112 114
Peruvian, 1870, 6 per cent. cert. attached .....	24½ 25
Ditto, 1872, 5 per cent. do. do. ....	20½ 21
Spanish, Quicksilver, Mort. 5 per cent.....	102 104
United States Mort. 6 per cent.....	105 107

## IRON AND COAL COMPANIES

<i>Shares.</i>	<i>Company.</i>	<i>Pnd.</i>	<i>P</i>
100 Abbot, John, and Co. [L].....	£ 75 0 0	33	
5 Altami Colliery Co. [L].....	5 0 0	3	
100 Ashbury Co. [L].....	90 0 0		
3 Bagnall, John, and Sons [L].....	3 0 0	36	
100 Benhar Coal Co. [L].....	10 0 0	13	
50 Bilbao Iron Co. [L].....	50 0 0	29 1/2	
50 Bilson & Crump Mdw Coll [L] .....	10 0 0	0	
20 Bolekow, Vaughan, & Co. [L] A 20	12 0 0	33 1/2	
50 Brown, Bailey, and Dixon [L] .....	40 0 0	23	
100 Brown, John, and Co. [L].....	70 0 0	15 1/2	
3 Cakemore, Cawey, Grn. ord. sh. ....	3 0 0		
3 Ditto (7 1/2 per cent. pref.) .....	3 0 0		
100 Cammell and Co. [L].....	80 0 0	11 1/2	
20 Cannock & Huntington Coal [L] .....	10 0 0	11	
10 Central Swedish Iron & Stl. [L] .....	10 0 0	1	
5 Chapel House Colliery .....	5 0 0		
50 Charlton Iron Co. [L].....	50 0 0	3	
50 Chatterley Iron Co. [L].....	50 0 0	6 1/2	
10 Chillington Iron Co. [L].....	10 0 0	2 1/2	
10 Consett Iron Co. [L].....	7 1/2 0 0	17 1/2	
1 Consett Spanish Ore [L].....	1 0 0	5 1/2	
50 Cooke, William, and Co. [L].....	45 7 0		
20 Darlington Iron Co. [L].....	18 10 0	18 1/2	
50 Davy Brothers [L].....	22 10 0	4	
23 Ebbs Vale Co. [L].....	20 0 0	9 1/2	
8 Genl. Mining Ass. [L] (ful. pd.) .....	80 0 0	3 1/2	
50 Knowles, Andrew, and Co. [L] .....	22 0 0	12 1/2	
20 Llynvi and Tondu [L].....	20 0 0	10	
10 Lydney & Wigpool Iron Ore [L] .....	9 5 0	9	
10 Marbella Iron Ore Co. [L].....	10 0 0	2	
10 Midland Iron Co. [L].....	5 0 0	1 1/2	
10 Monkland Iron & Coal Co. [L] .....	10 0 0	2	
4 Mwymdy Iron Ore Co. [L].....	3 15 0	1 1/2	
100 Nant-y-Glo & Blaina (3 p.c. prf.) .....	100 0 0	35 1/2	
3 Nerbudda Coal and Iron [L] .....	2 1/2 0 0	3 1/2	
10 Newport Abercarn Coal Co. [L] .....	10 0 0		
10 Northmptn. Coal, Iron, &c. [L] .....	8 0 0		
10 Northfield Iron Co. [L] .....	8 1 0		
35 Palmer's Shiplhdg. & Iron [L] .....	35 0 0	28 1/2	
100 Parkgate Iron Co. [L].....	65 0 0	21 1/2	
20 Patent Nut and Bolt [L] .....	14 0 0	9 1/2	
20 Pelsall Coal and Iron [L] .....	17 10 0	11 1/2	
50 Rhymney Iron Co. [L] .....	50 0 0	32	
10 Sandwell Park Colliery Co. [L] .....	10 0 0	14	
100 Shotts Iron Co. [L] .....	100 0 0	70	
25 Sheepbridge Iron and Coal [L] .....	20 0 0	6 1/2	
50 Silkstone & Dodw. Cl. & Iron [L] .....	45 0 0		
50 Somorrostro Iron Co. [L] .....	50 0 0		
100 Staveley Iron and Coal Co. [L] .....	60 0 0	15 1/2	
100 Ditto ditto B.....	10 0 0	1 1/2	
5 Teesside Iron & Engine Works .....	5 0 0	1 1/2	
50 Tredegar Iron and Coal, A [L] .....	25 0 0	12	
25 Ditto ditto B.....	25 0 0	18	
20 Ulverston Mining Co. [L] .....	16 0 0	14	
10 Vancouver Coal [L] .....	6 0 0	3	

## GAS COMPANIE

Issue.	Shares.	Pl.	Clos. pr.
32 dis	50000. ... 20. <i>Bahia</i> [L] .....	all.	17 18
4	13000. ... 5. <i>Bombay</i> [L] .....	all.	55 45
—	10000. ... 5. <i>Ditto</i> , New [L] .....	4.	42 5
1 1/2	29700. ... <i>Stk.</i> ... <i>Brentford Consolidated</i> .....	100.	153 158
1 1/2	14000. ... 20. <i>British</i> .....	all.	32 34
29 1/2	550000. ... <i>Stk.</i> ... <i>Commercial</i> .....	100.	180 185
4 pm	20000. ... 20. <i>Continental Union</i> [L] .....	all.	21 22
21 dis	20000. ... 20. <i>Do. do. New, 1889, 1872</i> ... 14.	14	14 15
15 1/2 dis	10000. ... 20. <i>Do. do. 7 per cent. Preference</i> all.	24 1/2	25 25
—	23400. ... 10. <i>European</i> [L] .....	all.	15 1/2 20
—	94850. ... <i>Stk.</i> ... <i>Gaslight and Coke, A, Ord.</i> ... 100.	100	175 173
11 dis	50000. ... 10. <i>Ditto, 5th issue</i> .....	all.	101 103
10 1/2 dis	284200. ... <i>Stk.</i> ... <i>Do, 4 per cent. Deb. Stock</i> ... 100.	100	15 1/2 16
1 1/2	5000. ... 10. <i>Hong Kong and China</i> .....	all.	185 183
—	280000. ... <i>Stk.</i> ... <i>Imperial Continental</i> .....	100.	175 180
—	386500. ... <i>Stk.</i> ... <i>London</i> .....	100.	2 2 1/2
3 1/2	12000. ... 5. <i>Malta &amp; Mediterranean</i> [L] .....	all.	16 17
7 1/2	100000. ... <i>Metroc. of Melbourne</i> 6 p.c. Deb.	all.	2 2 1/2
3	25000. ... 20. <i>Monte Video</i> [L] .....	all.	63 75
18 pm	10000. ... 5. <i>Ottoman</i> [L] .....	all.	10 10
5 1/2 pm	30000. ... 5. <i>Oriental</i> [L] .....	all.	24 1/2 25
18 dis	27500. ... 20. <i>Rio de Janeiro</i> [L] .....	all.	195 200
4 1/2 pm	510000. ... <i>Stk.</i> ... <i>South Metropolitan, A</i> .....	100.	175 180
9 1/2	50000. ... <i>Stk.</i> ... <i>Ditto, ditto, B</i> .....	100.	175 180
—	<b>TRAMWAYS.</b>		
12 1/2 dis	<i>Issue. Shares.</i>	<i>Pl.</i>	<i>Clos. pr.</i>
10 1/2	40000. ... 5. <i>Anglo-Argentine</i> [L] .....	all.	4 4
8 dis	10000. ... 10. <i>Barcelona</i> [L] .....	all.	11 12
2 1/2	7140. ... 10. <i>Belfast Street Tramways</i> .....	all.	6 7 1
2 pm	3050. ... 10. <i>Birkenhead, Ordinary</i> .....	all.	5 5
2 1/2	3000. ... 10. <i>Ditto, 6 per cent. Preference</i> . all.	10 10	10 10
2	9290. ... 10. <i>Bristol</i> [L] .....	9	11 1/2 12
36	25000. ... 10. <i>Bordeaux Tram &amp; Omnibus</i> [L] .....	10	10 10
3 1/2	3200. ... 10. <i>Chester</i> [L] .....	all.	—
7 1/2	24000. ... 10. <i>Dublin</i> .....	all.	—
—	14690. ... 10. <i>Edinburgh Street Tramways</i> .....	all.	12 13 14
28 1/2	35000. ... 10. <i>Glasgow Tramway &amp; Omni.</i> [L] ... 9	13 13	14
1 1/2 dis	10000. ... 10. <i>Hughes Loco. and Tram. works</i> , all.	all.	41 41
10 1/2 pm	7500. ... 10. <i>Hull Street Tramways</i> .....	all.	8 9 10
12	7500. ... 10. <i>Imperial</i> [L] .....	all.	23 24
34	34000. ... 10. <i>Liverpool Unit. Tram &amp; Om.</i> [L] ... 10	10 10	10 10
15	25000. ... 10. <i>London</i> [L] .....	all.	13 13
75	15000. ... 10. <i>London Street Tramways</i> .....	all.	12 12
6 dis	60000. ... 10. <i>North Metropolitan</i> .....	all.	15 15
8000. ... 10. <i>Nottingham and District</i> [L] .....	all.	9 10	
15 1/2 pm	15947. ... 10. <i>Provincial</i> [L] .....	all.	11 12 13
2 1/2 pm	6000. ... 10. <i>Sheffield</i> .....	all.	7 8
1 1/2	5000. ... 10. <i>Southampton</i> .....	all.	8 8
10 dis	6000. ... 10. <i>Sunderland</i> [L] .....	all.	4 4 5
20	10000. ... 10. <i>Swansea</i> [L] .....	all.	—
13 dis	12000. ... <i>Tramways of France</i> [L] .....	all.	6 6 7
4 1/2 pm	16500. ... 10. <i>Tramways of Germany</i> [L] .....	all.	9 9 10
4 1/2 pm	20000. ... 5. <i>Tramways and Gen. Works</i> [L] .....	all.	15 15
4 1/2 pm	40000. ... 5. <i>Tramways Union</i> [L] .....	all.	6 6 7
4 1/2 pm	45000. ... 10. <i>Yale of Clyde</i> .....	all.	6 6 7

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**TELEGRAPH COMPANIES**

TELEGRAPH COMPANIES			
Shares.	Pl.	Clos. pr.	Pl.
Stk. Anglo-American .....	100 0	55 <sup>1</sup> <sub>4</sub>	55 <sup>1</sup> <sub>4</sub>
10 Brazilian Submarine .....	10 0	10 <sup>1</sup> <sub>2</sub>	10 <sup>1</sup> <sub>2</sub>
10 Cuba .....	10 0	9	9 <sup>1</sup> <sub>2</sub>
10 Direct Spanish .....	9 0	3 <sup>1</sup> <sub>2</sub>	4 <sup>1</sup> <sub>2</sub>
20 Direct United States Cable .....	20 0	10 <sup>7</sup> <sub>8</sub>	11 <sup>1</sup> <sub>2</sub>
10 Eastern .....	10 0	9 <sup>1</sup> <sub>2</sub>	10 <sup>1</sup> <sub>2</sub>
10 East. Extra. Austr. and China .....	10 0	11	11 <sup>1</sup> <sub>2</sub>
10 German Union .....	10 0	11 <sup>1</sup> <sub>2</sub>	12 <sup>1</sup> <sub>2</sub>
10 Great Northern .....	10 0	12 <sup>1</sup> <sub>2</sub>	12 <sup>1</sup> <sub>2</sub>
25 Indo-European .....	25 0	29	30
10 London Platino Brazilian .....	10 0	6 <sup>1</sup> <sub>2</sub>	4 <sup>1</sup> <sub>2</sub>

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